OHIO STATE UNIV
DEC 1 30
LIBR

DOMESTIC ENGINEERING

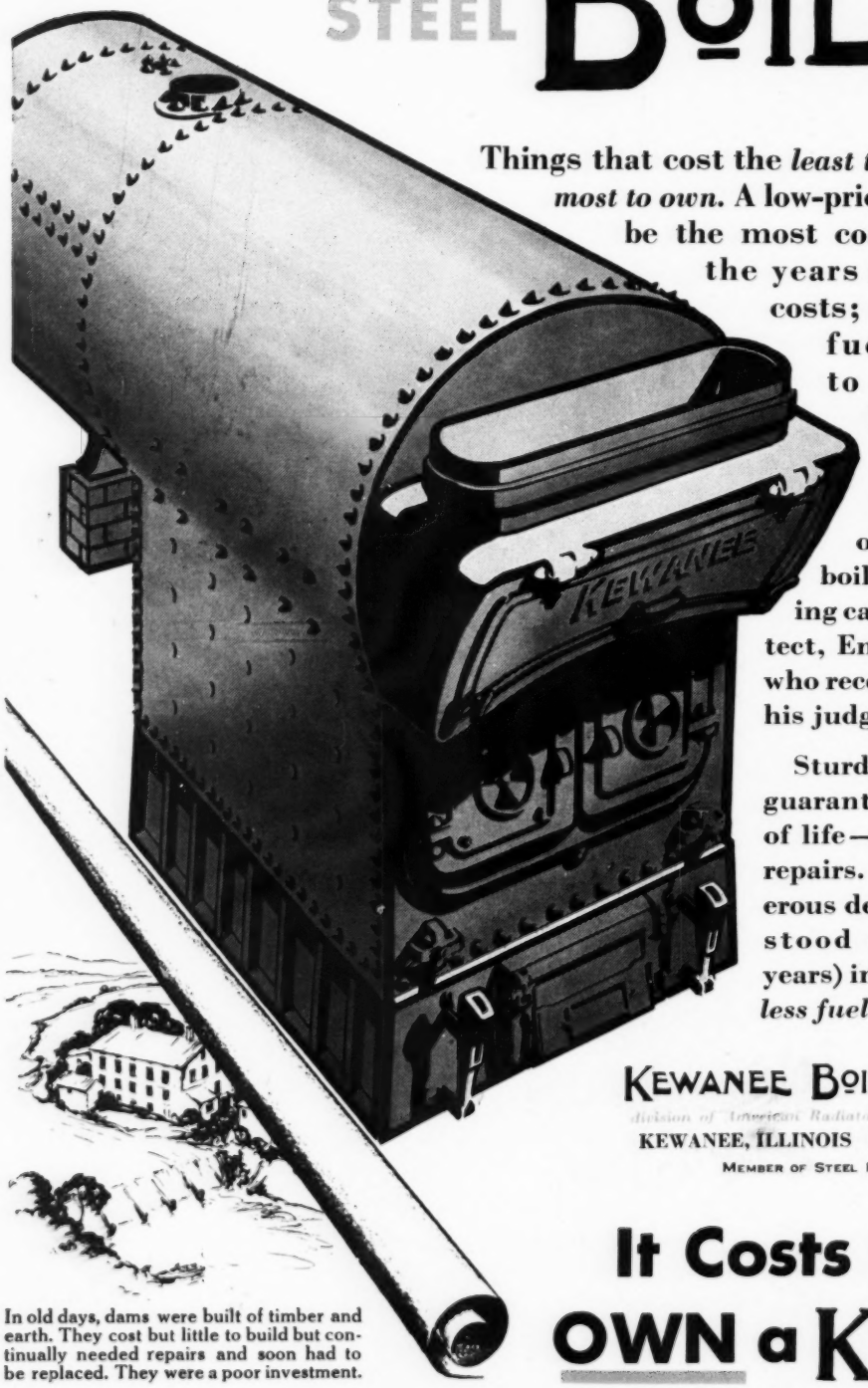
Plumbing & Heating Contracting and Merchandising

Big enough to hold a man—and welded!

DECEMBER 13, 1930

Pipe Line Welding—A Study of Modern Practices

KEWANEE STEEL BOILERS



In old days, dams were built of timber and earth. They cost but little to build but continually needed repairs and soon had to be replaced. They were a poor investment.

Things that cost the *least to buy* often cost the *most to own.* A low-priced boiler may easily be the most costly. It depends on the years it lasts; on repair costs; and the amount of fuel it must burn to keep a building heated.

The Kewanee Boiler has so long been recognized as the best boiler investment a building can have that the Architect, Engineer or Contractor who recommends it never has his judgment questioned.

Sturdy steel construction guarantees many extra years of life—with a minimum of repairs. While correct, generous design (design that has stood the test of many years) insures *more heat with less fuel.*

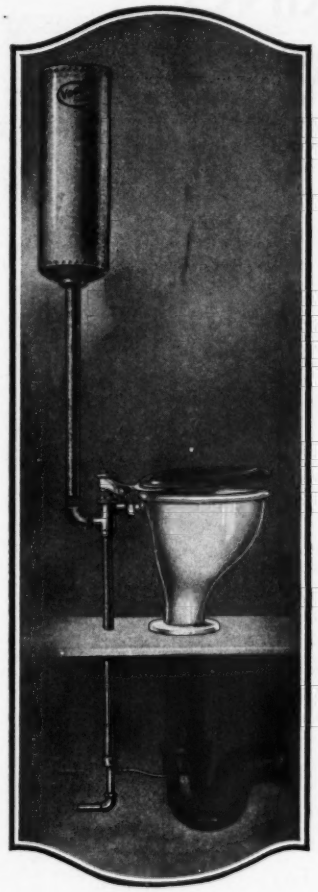
KEWANEE BOILER CORPORATION

division of American Radiator & Standard Sanitary Corporation

KEWANEE, ILLINOIS ***Branches in Principal Cities***

MEMBER OF STEEL HEATING BOILER INSTITUTE

It Costs Less to OWN a KEWANEE



NUMBER ONE VOGEL FROST-PROOF CLOSET

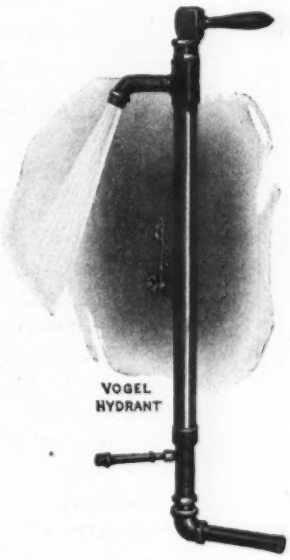
Simple in operation. Sturdy in construction. Half a million in operation.

YOU CAN INSTALL THEM
.... *and Guarantee Them*

EVERY **VOGEL** Frost-Proof Closet and Hydrant is inspected thoroughly before being shipped. The bowl, the seat, the tank and the valve must all be exactly up to the high standard of **VOGEL** Products, which has been maintained for more than 23 years.

Your customers like to know this. And also the fact that more than 500,000 **VOGEL** Frost-Proof Closets and Hydrants have been installed and are giving satisfaction in all parts of the country under all conditions.

We are telling your customers in our advertising. You tell them, too, and ask us for literature imprinted with your name and address.



VOGEL FROST-PROOF HYDRANT

See inside back page for advertisement on VOGEL Seat-Action Closets.

JOSEPH A. VOGEL COMPANY

Wilmington, Delaware St. Louis, Mo.

VOGEL PATENTED *Frost-Proof* Products

DOMESTIC ENGINEERING

Plumbing & Heating Contracting and Merchandising

Established 1889

Vol. 133, No. 6 | December 13, 1930 | Whole No. 1932

IN THIS ISSUE

	Page
Leading and Following Through	40
Pipe Line Welding—A Study of All the Factors in Modern Welding Practice. By R. W. Boggs	42
Accident Proves Need for Booster Pump	47
A Sales Opportunity—Radiator Covers	48
Improve Methods of Treating Sewage. By W. A. Hardenbergh	50
CO_2 Tells If Oil Burner's Air Supply is Correct. By A. H. Senner	53
Plumbing and Heating Merchandising: New Methods to Meet Changing Conditions. Profits from Specialty Sales. Time Payments and the Bank. Christmas Windows. The Master Salesman	57
Stoker Installation Solves Smoke Problem	65
Certified Plumbing. By T. W. Merryman	67
On the Job with Dolan & Olson	70
Official Errors in Plumbing Requirements. By S. M. Barr	74
California City Regulates Gas Installations. By R. M. Starbuck, Jr	79

EDITORIAL STAFF

R. V. Sawhill, *Editorial Director*
R. Herlov, Chas. E. Price,
L. W. Britton, G. R. Stearns,
J. E. Ramage, W. W. Gothard,
Associate Editors
R. M. Starbuck, Jr.,
Consulting Editor on Plumbing

ADVERTISING REPRESENTATIVES

F. S. King, E. G. Hutchison,
R. Payne Wettstein,
Wallace J. Osborn, H. J. Carr,
D. M. Kenney, Robert A. Jack,
R. H. Partenfelder,
A. T. Papineau

SPECIAL DEPARTMENTS

BETWEEN OURSELVES	6
OUR INDUSTRY	39
EDITORIALS	56
RETAIL ADVERTISING SERVICE	76
LETTERS TO THE EDITOR	87
SUPPLY NEWS	91
CONVENTION DATES	126
THE TRADE	137
MARKETS	149
LEGAL QUESTIONNAIRE	157
QUESTIONS AND ANSWERS	163
WOMAN'S PAGE	172
PLUMBING AND HEATING PATENTS	183
INDEX TO ADVERTISERS	186

Published Fortnightly by
ENGINEERING PUBLICATIONS, INC.
1900 Prairie Avenue, Chicago

F. P. KEENEY,
President and Treasurer
E. DE FOREST WINSLOW,
Vice President
O. T. CARSON,
Secretary

BRANCH OFFICES

NEW YORK—
Rooms 1706-1707, 110 East 42nd St.

PHILADELPHIA—
Room 1507, Finance Bldg.

PITTSBURGH—
Room 604, Chamber of Commerce Bldg.

DETROIT—
Room 410, Donovan Bldg.

TERMS OF SUBSCRIPTION
Anywhere in the World, $2.00 per year.
Current copies, 20c each. Back numbers, 40c each

Copyright 1930, by Engineering Publications, Inc.

Entered as Second Class Matter on January 19, 1929, at the Post Office at Chicago, Illinois, under the Act of March 3, 1879.

Member of Audit Bureau of Circulations.

More Than 20,000 Copies of This Issue Printed and Distributed

WOLVERINE

THE SYMBOL OF DEPENDABILITY

The Wolverine Brass Works have the complete confidence of the Master Plumbers. This confidence is more than a source of justifiable pride. It is an obligation—a responsibility—an inspiration. It makes imperative, their high standard of manufacture, that has become symbolical of Dependability.

WOLVERINE BRASS WORKS

GRAND RAPIDS MICHIGAN

We Sell the Retail Plumbing Trade Exclusively

Between Ourselves

Once—when we launched the "Bath A Day Movement"—we saw the industry grasp an idea and work as a unit in putting it over. We have just seen the same thing happen in connection with the new movement to push the remodeling idea. We offered a carefully-worked out plan—and the industry snapped it up. In hardly more than thirty days, manufacturers, wholesalers and contractors had swung back of this plan, which climaxed over three years of study of the subject.

Your Editor

IN THIS issue, under the title, "Leading and Following Through" we have given a brief sketch of what was done to promote this latest movement to secure remodeling jobs in all types of buildings. What is more important, we have indicated the extent to which the industry absorbed the plan. It proves conclusively that, given constructive material, this industry of ours knows how to act as a unit. We take great satisfaction in knowing this to be true, because we believe that it argues well for the future, when such concerted action may become a very important factor in the growth of the field.

HOW would you like to pay the rent on your store from the profits from the sale of a specialty item? John Kleinhans, a master plumber and heating contractor of Elizabeth, N. J., does that very thing every month by selling radiator enclosures. In one evening, as a result of a telephone call that resulted from a display in his show window, he sold $1,200 worth of radiator enclosures. A tremendous market exists for this product. It is estimated that of the radiators in existing dwellings, about 35 million of them are suitable for enclosures. On top of this, it is figured that each year new construction offers a market for approximately 750,000 enclosures. Read about the big possibilities in this field in the story called "A Sales Opportunity—Radiator Covers."

WHILE the welding of pipe dates back in an experimental way to the early days of the welding industry, it is not so many years ago that the method was put to practical use in the welding of pipe lines. In 1911 an eleven mile pipe line was laid near Philadelphia and gave very satisfactory service. At the Panama Pacific Exposition in San Francisco about twenty miles of high pressure gas mains of steel pipe were welded. From these early days the growth of oxy-acetylene welding of pipe has been outstanding. Many thousands of miles of trunk lines and their branches are now welded. R. W. Boggs describes in this issue the important things to know on the subject in a story entitled "Pipe Line Welding." On the front cover is a picture of a welded pipe large enough to hold a man. This is an example of the way in which the use of pipe welding has grown.

THE representative of a large manufacturer is using our Market Reports in the following way:

When he notices an apparent slackening of demand in a certain section, he immediately increases the amount of promotional literature in that territory. In other territories where demand is apparently more brisk, he reduces the number. He has found that this has produced results, and you may be sure that he is an enthusiastic booster for the Market Reports of DOMESTIC ENGINEERING.

IT HAS often been observed that authorship that is deeply rooted in knowledge carries authority. That is why the "Dolan & Olson" stories have always been so popular. They reek of okum, and melting lead; they show in every line that they come right out of a plumbing shop. The story in this issue is no exception—unless the exception is in the sales call that Hank made on a smarter salesman than himself, who—but we won't spoil the point of that story. It's good.

IT WILL be remembered that at the annual convention of the National Association of Master Plumbers held in Boston, the Chicago group presented for consideration a plan for "certified plumbing." The idea met with a favorable reception. T. W. Merryman, author of the plan, then prepared a complete, detailed presentation to be placed before the board of directors of the national group so that they might give it further consideration. The plan appears in this issue under the title, "Certify It!"

IN ORDER to know what a system will do or how it will operate it is necessary to know its capacity. Accordingly it is imperative that the fundamentals be thoroughly understood as they form the foundation. You will want to read the article that will appear in the next issue on the application of simple mathematics to the problems of the plumbing and heating contractor. The title is: "Long and Short Methods of Solving Plumbing and Heating Mathematical Problems."

The man who is so busy that he does not have time to read his trade paper is like the man who was so busy chopping wood that he did not have time to sharpen his axe

FLOATS

MADE OF STOKES HARD RUBBER

- - - on the incoming tide of GOOD BUSINESS for the plumbing industry.

The extensive use of Stokes Hard Rubber Products is the result of FACTS, based strictly upon experience. Hard Rubber neither rusts nor corrodes. It is strong, durable and can be produced to exact specifications.

The Mark (S) of Quality

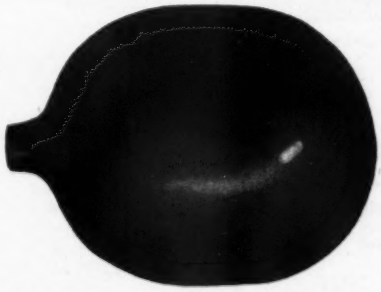
Stokes Floats are used by a large and increasing number of plumbers who appreciate the advantages of Hard Rubber, and who guarantee them for the life of the tank.

Your customers expect you to supply them with a product that represents the highest value (the relation of quality to price) that you can obtain for them. Use Stokes Hard Rubber Floats and enjoy the confidence of those with whom you do business.

Your Trial Order Will Be Appreciated

Hard Rubber is the ideal material for FLOATS.

MOULDERS SINCE 1897



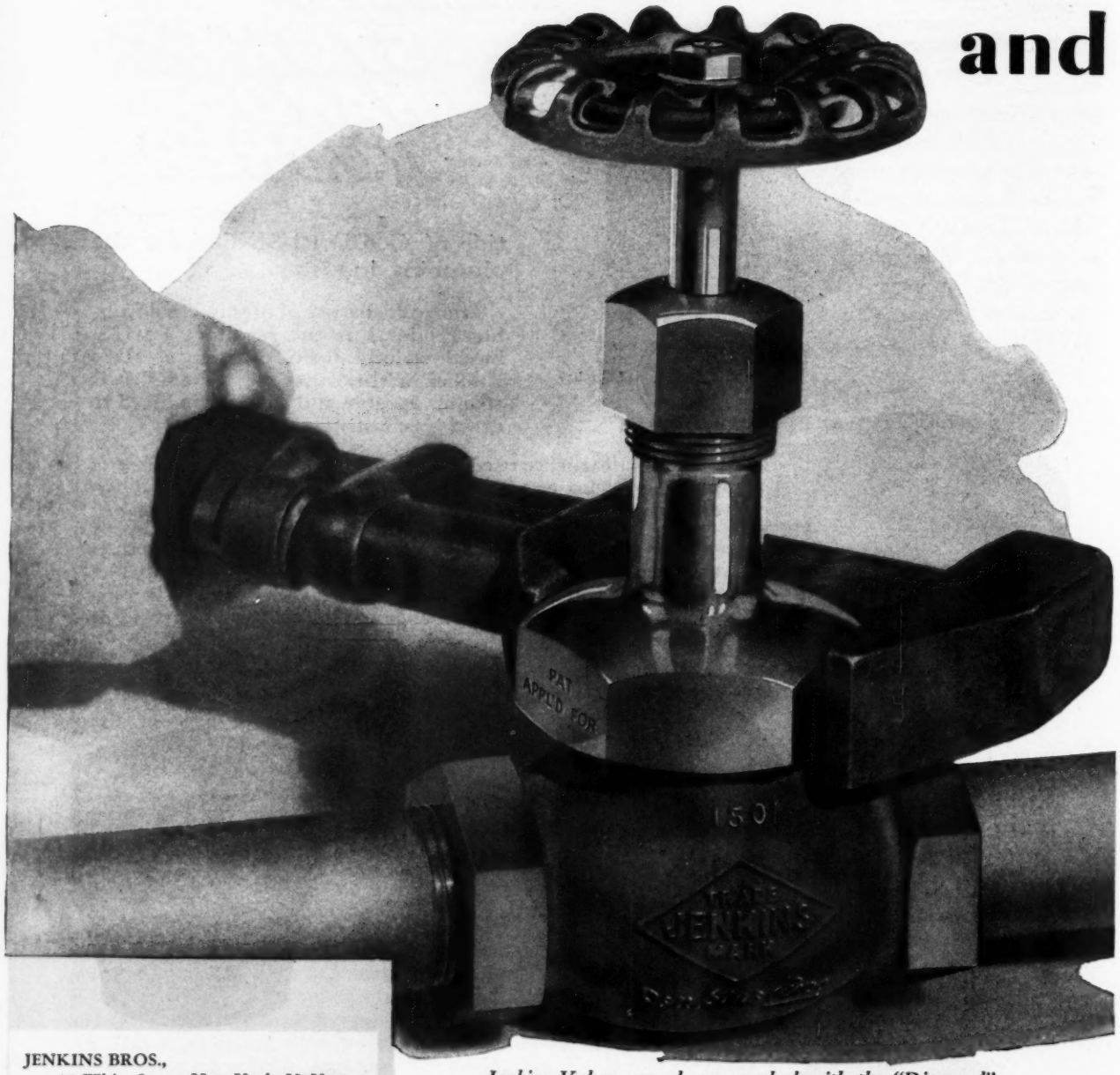
Jos. Stokes RUBBER CO.

Trenton N.J.

Canadian Plant: Welland, Ontario

HARD RUBBER IN EVERY CONCEIVABLE FORM

This valve can and



Jenkins Valves are always marked with the "Diamond"

JENKINS BROS.,
80 White Street, New York, N. Y.
Please send Bulletin 141 on Jenkins Standard Bronze Valves with one-piece screw-over bonnets to

Name.....

Address.....

.....

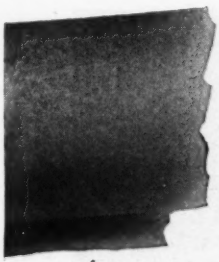
FIG. 106-A, SCREWED, JENKINS STANDARD BRONZE GLOBE VALVE, *with one-piece screw-over bonnet, and slip-on stay-on disc holder. For 150 lbs. steam working pressure, or 250 lbs. oil, water, gas working pressure.*

be *easily* taken apart, re-assembled repeatedly, *without distorting the bonnet!*

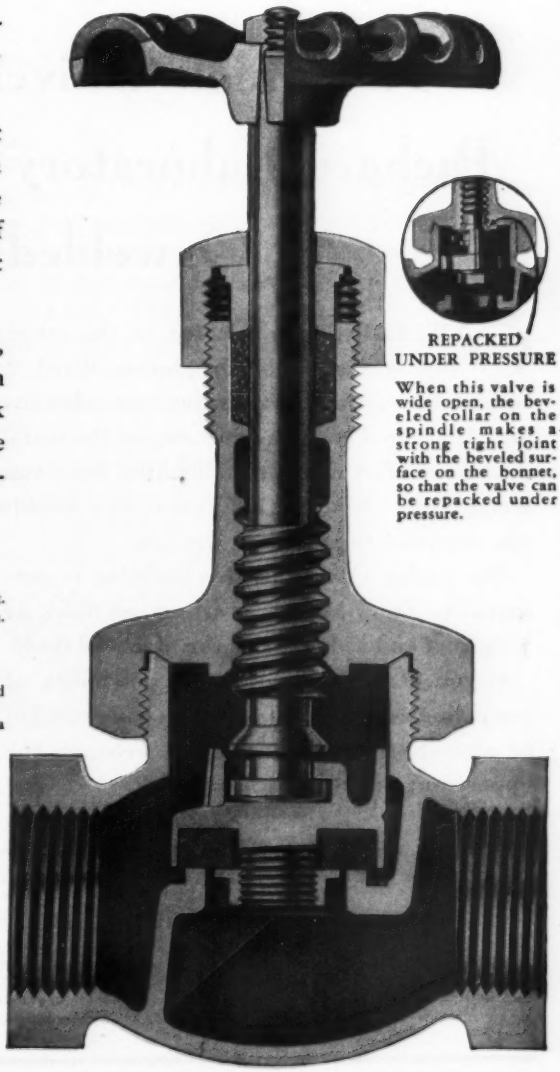
HERE is Fig. 106-A, Jenkins Standard Bronze Globe Valve. The bonnet is made in *one sturdy piece of bronze.* Great strength is the result. Trimmings are interchangeable between globe and angle valves.

This valve can be easily taken apart and re-assembled repeatedly, without danger of distorting or springing the bonnet!

Then, there is the unique slip-on stay-on disc holder that does not fall off the spindle. In a few simple, quick operations, you can change the disc. Remove the one-piece bonnet . . . slip off the old disc and holder . . . slip on the new disc and holder . . . and replace the bonnet.



These new valves are obtainable, through your supply house, in globe, angle, cross and check types, screwed or flanged. Use the coupon for further information.



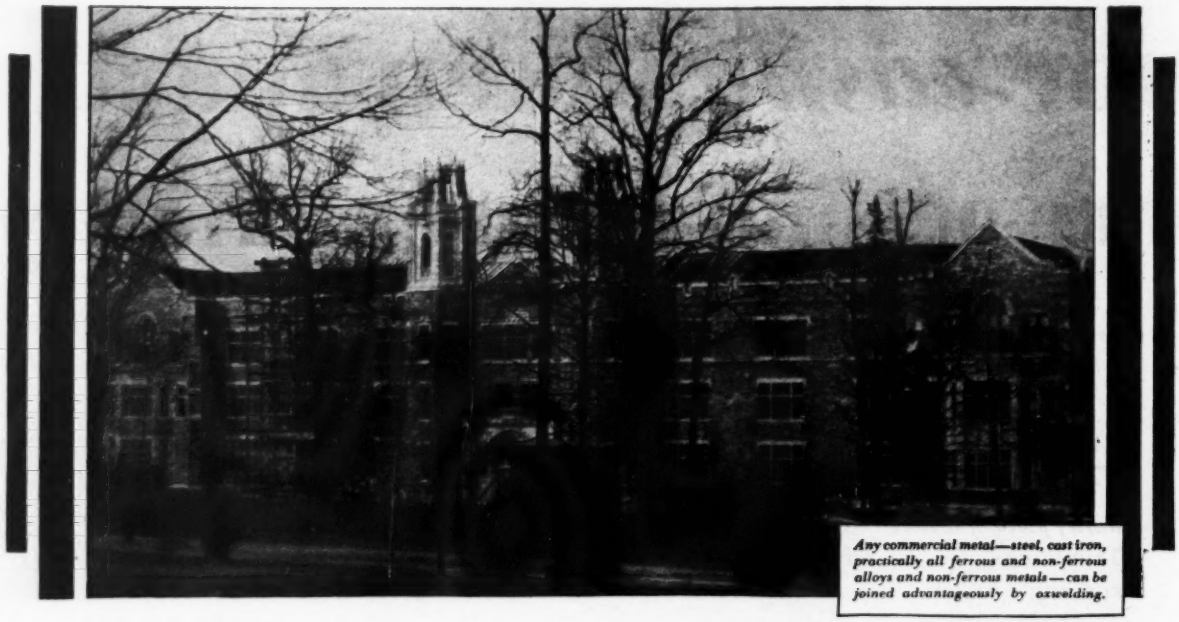
REPACKED UNDER PRESSURE

When this valve is wide open, the beveled collar on the spindle makes a strong tight joint with the beveled surface on the bonnet, so that the valve can be repacked under pressure.

JENKINS BROS.

80 White St. New York, N. Y. | 524 Atlantic Ave. Boston, Mass. | 133 No. Seventh St. Philadelphia, Pa.
646 Wash. Blvd., Chicago, Ill.
1121 No. San Jacinto, Houston, Texas
JENKINS BROS., Limited
Montreal, Canada — London, England
Factories:
Bridgeport, Conn. Elizabeth, N. J. Montreal, Canada

Jenkins
VALVES
Since 1864



Any commercial metal—steel, cast iron, practically all ferrous and non-ferrous alloys and non-ferrous metals—can be joined advantageously by oxwelding.

At Lehigh University Packard Laboratory Piping is Oxwelded

OXWELDING was selected as the means of installing the piping system of the James Ward Packard Laboratory because of its many advantages over other methods of pipe joining. It lowered costs in every step of the installation. Design was simplified. Fittings were fabricated from standard pipe section. Weight was reduced. Insulation was facilitated and less time was required to complete the job.

The piping system in this building is permanent. Every joint is as strong, as tight, as leakproof and as lasting as the pipe wall itself.

If you are interested in the possibility of oxwelding as applied to your own construction or alteration program we shall welcome the opportunity to cooperate with you.

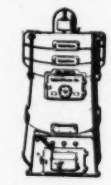
THE LINDE AIR PRODUCTS COMPANY, THE PREST-O-LITE COMPANY, INC., OXWELD ACETYLENE COMPANY, UNION CARBIDE SALES COMPANY,

Units of **UNION CARBIDE AND CARBON CORPORATION**

General Offices . . . New York UCC Sales Offices . . . In the Principal Cities

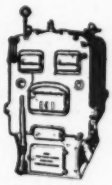
65 Linde plants, 48 Prest-O-Lite plants, 174 Oxygen Warehouse stocks, 156 Acetylene Warehouse stocks, 42 Apparatus Warehouse stocks, 245 Union Carbide Warehouse stocks

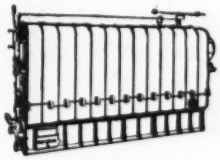
Weil-McLain Boilers fight fuel waste *and deliver more heat*

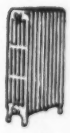

Round Type Boiler

Jacketed Boiler

Self-feed Boiler


Square Type Boiler


Smokeless Boiler


Cameo Radiator

Your Weil-McLain Distributor has a complete line of these Boilers and Radiators in all popular styles

Weil-McLain Scientific Combustion Boilers are carefully designed to take advantage of every possible factor that can contribute to fuel economy and utilization of heat. Outstanding structural advantages enable Weil-McLain Boilers to provide more heat and to save fuel. Home owners are quick to understand and appreciate these features.

30% to 40% more heat-absorbing surface

InWeil-McLain Round Boilers, for example, the crown sheet section and all other vital heat-absorbing surfaces are corrugated like this ~~~~, instead of flat like this _____. These fuel-saving corrugations crowd perhaps a third more heat-absorbing surface into the same space. Equivalent heating surface is provided in all other types of Weil-McLain Boilers.

Balanced back-and-forth fire travel

More heat is actually utilized in Weil-McLain Boilers because Weil-McLain fire travel is not only back and forth but it is balanced. Variations in the rate at which boilers operate due to varying heat demands do not alter the long, balanced back-and-forth flow of gases through the flues.

There are Weil-McLain Boilers to meet all conditions — Round Type, Jacketed, Square, Self-feed and Smokeless. Also Weil-McLain "Cameo" Radiators.

WEIL-McLAIN COMPANY, General Office, Chicago, Ill.
Boiler Plant and Offices: Michigan City, Ind.
Radiator Plant and Offices: Erie, Pa.

Jobbing distributors with local stocks in most jobbing centers

Weil-McLain
SCIENTIFIC COMBUSTION BOILERS
fight fuel waste and deliver more heat

© 1930, W-McL.

MIXING · VALVES

Startling Facts *proved* by this test!

How an even temperature is held by

THE POWERS SHOWER MIXER

as compared with ordinary mixing valves

Conditions of the Test

Temperature of cold water is 55° F., hot water 170° F. Pressure on both lines is 50 lbs. Handle of Mixer is turned to "Warm" and temperature of water flowing from shower head is 100° F.

At Point 1—Cold water pressure is cut down to 10 lbs., hot water pressure is still 50 lbs.

Result—With hand valves and ordinary shower mixers, temperature rises about 40° in 15 seconds. See red line on chart. Bather under shower would get a "shot" of scalding hot water.

With a Powers Mixer, temperature of water remains constant at 100° F. See white line on chart.

At Point 2—Cold water pressure is restored to 50 lbs., hot water pressure is cut down to 10 lbs.

Result—With hand valves and ordinary mixers, temperature of water drops 70° in 25 seconds; bather under shower would get a "shot" of cool water here.

With a Powers Mixer, temperature of water remains constant at 100° F.

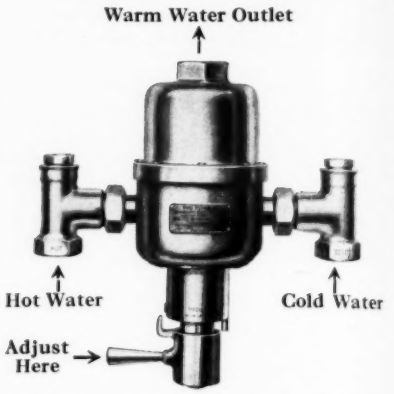
Conclusion

Hand valves and ordinary shower mixers do not protect bather from sudden "shots" of cold or scalding hot water caused by pressure changes when nearby showers, faucets, or flush valves are used.

A Powers Mixer, regardless of violent pressure changes, always holds the water at the desired temperature. Failure of cold water supply substantially cuts off the hot.

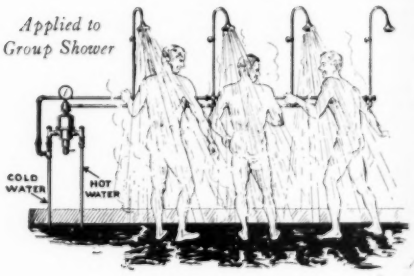
Write for book—showing complete data, roughing-in dimensions, and listing names of hundreds of users who have brought their showers up-to-date with Powers Mixers.

The Powers Thermostatic Water Controller

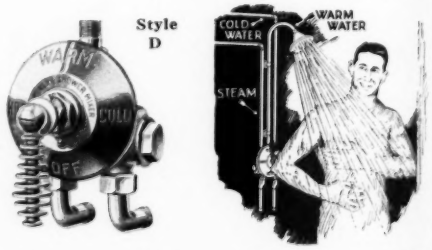


For group showers, baby baths, continuous flowing baths, car washing, etc. Scalding water cannot pass through this controller. Failure of cold water supply instantly shuts off the delivery. Simple in design. Rugged Construction. *Write for 12-page folder.*

Applied to Group Shower



The Powers Steam and Water Mixer



For shower baths, wash sinks, car washing, etc. Steam at 10 to 100 lbs. pressure and cold water at any pressure, piped to this mixer will give you COLD — WARM — or HOT water instantly. Positively Safe! No "shots" of hot or cold water—no noise or water hammer. *Write for Bulletin No. 2035.*

THE POWERS REGULATOR COMPANY

35 years of specialization in temperature control

General Eastern Office
137 East 46th St., New York City

General Offices and Factory
2720 Greenview Ave., Chicago, Ill.

Canadian Powers Regulator Co., Ltd.
106 Lombard St., Toronto, Ont.

Offices in 35 other cities—See your telephone directory

POWERS

THE CELEBRATED SKIP TOOTH DIE
(Genuine Nye)
REG. U. S. PAT. OFFICE

A Letter from Harry G. Nye

December 13, 1930

To the Plumbers and Steamfitters of the U. S. A.

A MERRY [I hope] CHRISTMAS
and
A HAPPY [perhaps] NEW YEAR!

Dear Friends:

When I think of the large number of Happy New Years and Merry Christmasses I have wished you in the past, and how they turned out, I hesitate for a minute, but no more than that, to wish you "A Merry Christmas and a Happy New Year!" I said the same thing last year, and your dog died, or your wife's family got sore, or something happened, and I felt like I hadn't delivered the goods. But, remember, "A Merry Christmas and a Happy New Year" is a wish, not a promise.

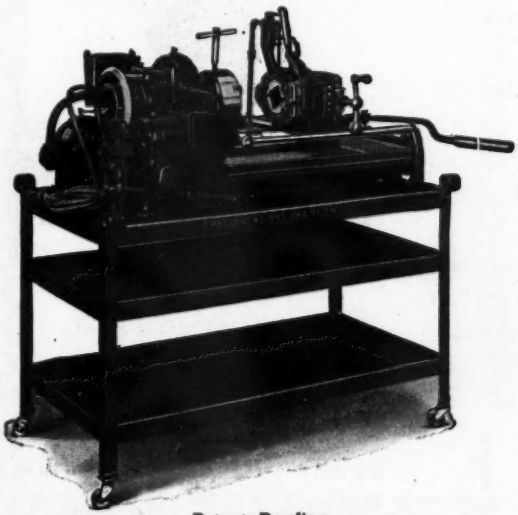
Life is like that. In the same mail you get greeting cards and January statements. You get the bitter with the sweet, and sometimes have a dickens of a time locating the sweet. You hook a two-pound fish, and break a ten-dollar rod. You make a dollar, and then find out that there was a hole in your pants. You get hold of a little, and then spill it on the way home. So I am wishing you a Merry Christmas and a Happy New Year, but with certain reservations, both Pullman and Indian.

I wish you a Merry Christmas, but mind you, I'm not saying that your wife's folks won't be there. Yes, I hope you'll have the usual Yule, but I can't say for certain whether you'll be invited out for Yule, or you'll have to buy your Yule yourself. I wish you a Happy New Year, when the Old Year bells are ringing in the New Year bills. I wish you all kinds of luck, because I know you'll have all kinds. I wish you a prosperous season, just as I did last year, and the year before that. I'll hit it yet.

Yes, I wish you a Merry Christmas and a Happy New Year, but it is the only thing that goes out of this shop that I don't guarantee. Now, if I were sending you a pipe-die or a power machine, I know it would turn out just the way you wish. So will the New Year, if you use Nye Tools.

Happy New Year,

Harry G. Nye



Patents Pending
"THE LIGHTWEIGHT CHAMPION"
Threads—Cuts Off and Reams
Capacity ⅛ to 2 Inches
Furnished with either A. C. Motor, Universal Motor or Gasoline Engine

OTHERWISE KNOWN AS
THE NYE TOOL & MACHINE WORKS
4120-30 Fullerton Avenue :: Chicago

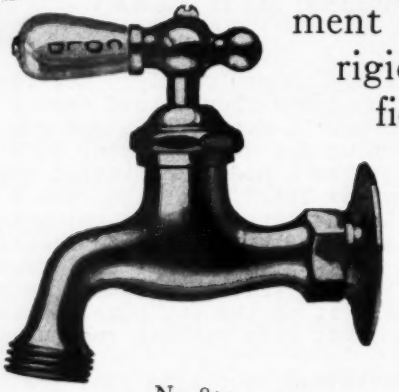
Copyright 1930 by Harry G. Nye All rights reserved

THE CELEBRATED SKIP TOOTH DIE
(Genuine Nye)
REG. U. S. PAT. OFFICE

Put in American BRASS GOODS *because--*

No. 822
Sizes ½ and ¾ in. finished or nickel plated

every piece of American equipment is built to the most rigid specifications—specifications that consider *your* problems and your *customers'* problems.



No. 824
Sizes ½ and ¾ in. China lever finished or nickel plated

No. 821
Sizes ½ and ¾ in. Finished or nickel plated

Make your remodeling profits permanent with American Brass Goods. Install American faucets and tub equipment. Let your customers have the complete satisfaction of perfectly designed, rigidly built and yet strikingly beautiful brass goods.

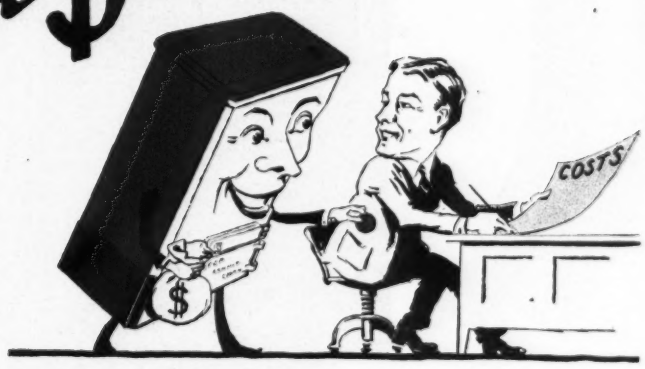
No. 459
Connected Waste and Overflow with sawtooth flange.

No. 543
American Bath Connections
Speedy straight with brass, lead or rubber cone heads, nickel plated.

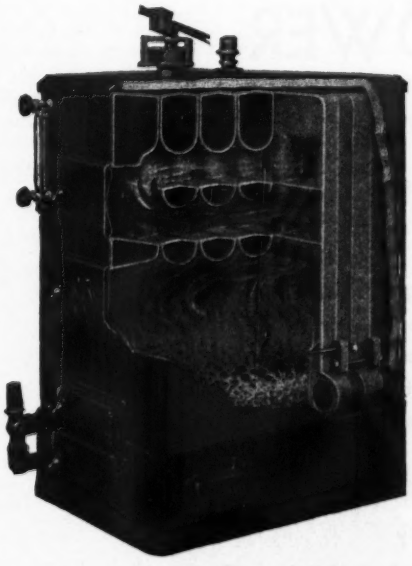
Your jobber can supply you with American Brass Goods at any time. Ask him about it—and about its long life qualities. Ask him about the satisfaction it is giving others and about its very reasonable cost.

AMERICAN SANITARY MFG. CO.
ABINGDON, ILLINOIS

Burnham Boilers



Now That Consumers Count Costs So Closely A BOILER Must Put Money In Their Pockets



BURNHAM long fire travel actually does that for your Burnham customers. It saves fuel for them that other boilers waste. Which, of course, brings more Burnham sales and more profits to you, as you very well know.

There's a Burnham Boiler for every heating purpose. A Burnham long fire travel, money saving boiler.

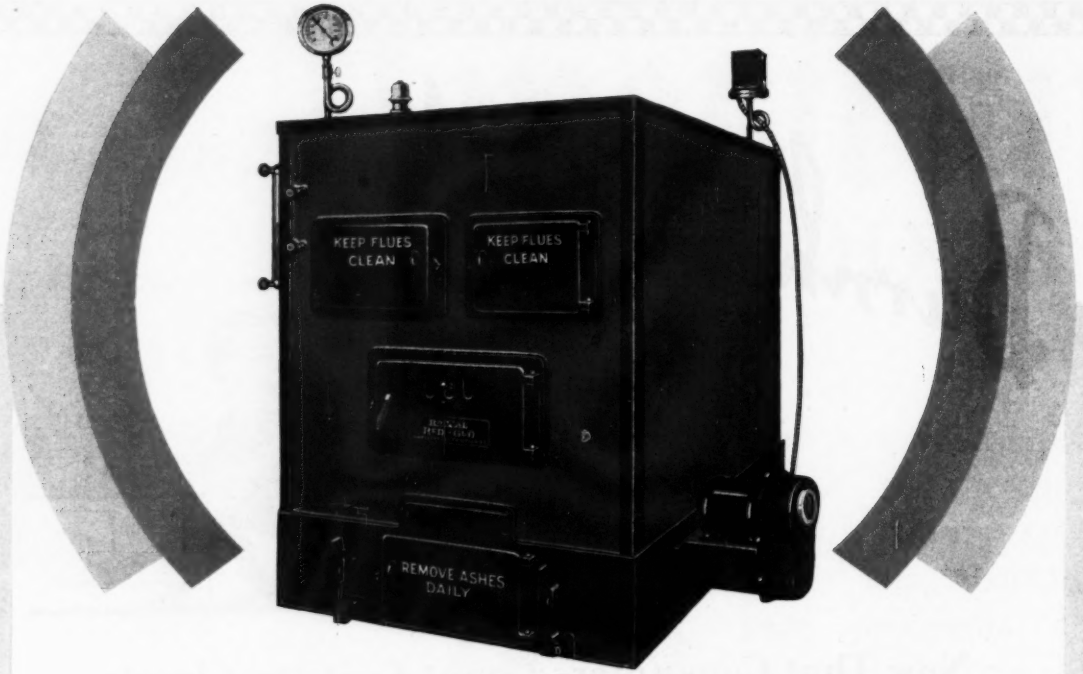
Send for our Catalog and price list.

Here's a Burnham water tube type boiler, cut open to show the three-way fire travel that makes all Burnhams such heat savers.

Burnham Boiler Corporation

IRVINGTON, N. Y.

Representatives in all principal cities of the United States and Canada



ROYAL RED-BLAST BOILER AND BLOWER

Complete in one unit!

A new and important development! A complete heating unit—boiler, blower and regulator. Burns buckwheat and the cheaper sizes of anthracite with unusual efficiency, little attention and remarkable fuel saving. Attractive insulated jacket. Long combustion chamber and flue travel. Individual tie-rods. Made in 18″ and 28″ sizes. The same boiler can be secured without blower and controls in the RED-GLO Boiler. It will pay you to investigate.

Red-Blast and Red-Glo Boilers

Manufactured by

HART & CROUSE CO.

UTICA, N. Y.

Boston New York Chicago Washington Detroit Pittsburgh

A COMPLETE LINE OF FURNACES AND BOILERS FOR EVERY TYPE OF BUILDING

Warm Air Furnace | 28″ Sectional Boiler | Large Sectional Boiler | 26″ Red-Glo Boiler | 17″ Red-Glo Boiler | Round Boiler

There's a half century of experience back of this Unit ~ *IT'S RIGHT!*

The only reason why the Watts Hot Water House Heating Unit is approved by the highest engineering authorities in the country is that it has *definitely demonstrated its absolute dependability* over many years of service. The Underwriters' Laboratories list the entire Watts Unit as standard. And it is approved by many of the largest water heater manufacturers.

For 56 years we have tested, studied and experimented with diaphragms, spring tensions, discs and seat construction. The sturdy strength, reliability and capable performance at all times and under all conditions of the Watts Unit, reflect the care and enduring quality that have been built into it. Why not place your confidence in a specialist in this line?

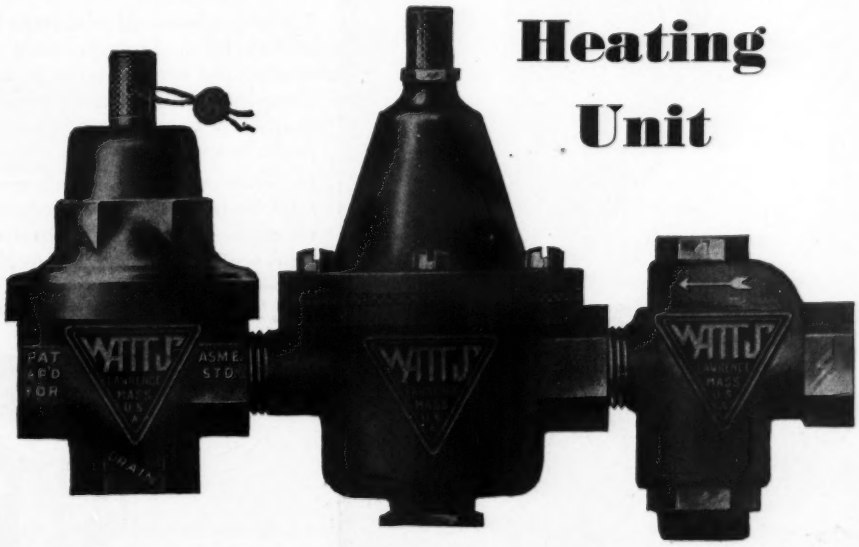
Another thing. You can average 100% profit on Watts jobs because of our liberal discount and the ease with which it can be installed. Its simple construction makes adjustment easy. Watts waterways enable one man to fill the system quickly.

Back of Watts products is a 56-year-old house whose financial responsibility and willingness to make good, if necessary, is without question.

Get full particulars. Write for Catalog No. 38.

WATTS

House Heating Unit



WATTS REGULATOR COMPANY

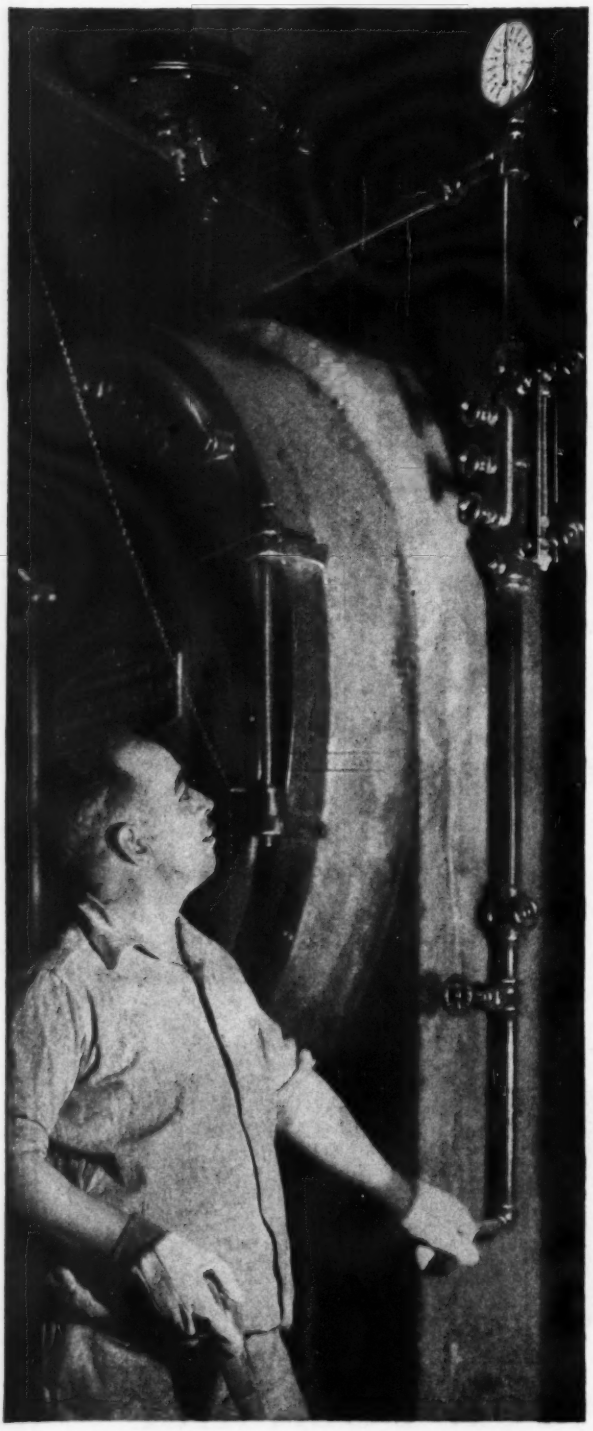
Makers of Water and Steam Regulating Devices Since 1874

249 Lowell St., Lawrence, Mass.

John G. Kelly, Inc., U. S. Sales Associates, 210 East 45th St., New York, N. Y.

W. H. Cunningham & Hill, Ltd., 269 W. Richmond St., Toronto, 2, Canada

The MAN WHO MAKES THE STEAM *tells of* HOFFMAN *Controlled Heat*



It isn't usual for the man at the business end of the coal scoop to get enthusiastic about any heating system. But when he *does* give praise you know his opinions are based, not on theory, but on actual, hard experience.

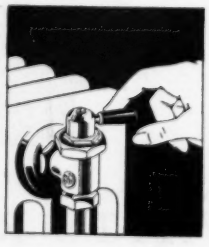
Take Victor Lammlin here, for example. He runs the steam plant at the beautiful Elizabeth Arden Apartments, located on Chicago's "Gold Coast." He says: "This Hoffman System takes the least work and is easier on the coal pile than any I've ever run into. Even in sub-zero weather, 8 ounces of steam is plenty. And I can bank my fires when the other fellow is working up steam pressure to keep things warm 'til midnight.

"What's more, the building manager isn't continually passing along tenant complaints to me. Hoffman Controlled Heat keeps everyone comfortable and happy."

This comes from a man who knows heating systems. For 15 years he's stoked the boilers of hotels, apartments and office buildings—he has contended with many heating problems.

There is a two-fold advantage in using Hoffman Controlled Heat. Low pressure steam, working in a vacuumized system, saves as much as ⅓ in fuel consumption. And room-by-room heat control—at the touch of a finger—brings temperature comfort suited to the individual.

In sky-scraper or bungalow—with coal, oil or gas fired boilers—Hoffman Controlled Heat gives a new conception of heating comfort and economy. Our representative will be glad to give you further information—or write for booklet. Hoffman Specialty Co., Inc., Dept. RX-52, Waterbury, Conn.



This Hoffman Adjustable Modulating Valve insures uniform circulation to all radiators and by merely moving the little handle, desired individual room temperatures are assured.

HOFFMAN CONTROLLED HEAT

The world's largest producer of Rubber offers this quality line to you through selected supply houses

Here is a complete line of quality rubber products scientifically designed and made by the world's largest producer of rubber.

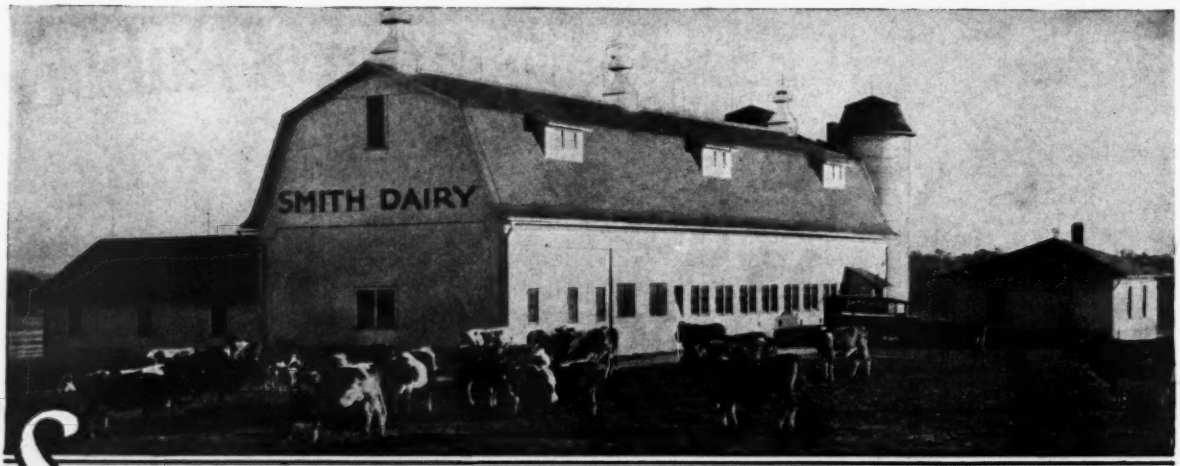
The line is exclusively yours. The handy man cannot buy or install it. "U. S." Royal Maroon products, due to their quality protect you from complaints and insure satisfied customers.

See your jobber today and ask for the "U. S." Royal Maroon Catalog or write us direct.

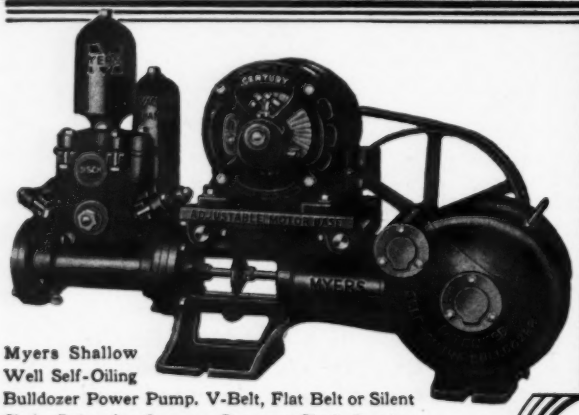
United States Rubber Company

Executive Offices:
1790 BROADWAY, NEW YORK CITY

"U.S." ROYAL MAROON LINE
of Plumbers' Rubber Specialties



Smith Dairy *and hundreds like it now depend on* Myers Self-Oiling Pumps *for Running Water*



Myers Shallow Well Self-Oiling Bulldozer Power Pump. V-Belt, Flat Belt or Silent Chain Drive for Open or Pressure Tank Service.

The Myers Engine Driven Shallow Well Self-Oiling Power Pump. V-Belt or Silent Chain Drive. Open or Pressure Tank Service.

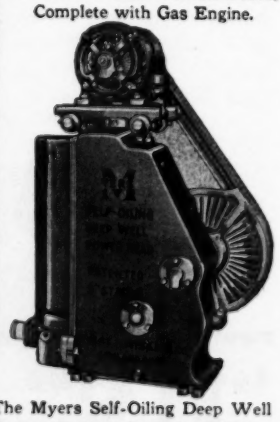
You've heard of Smith's Dairy, of course — you've heard of many other dairies like it, some of them smaller, some of them larger, but, have you ever stopped and considered the possibilities that every dairy, every progressive farm, every prosperous home, beyond the range of city water mains offers you in the way of profitable water system installations?

Here is the field that can be reached in its entirety with Myers Self-Oiling Power Pumps and Water Systems—a profitable field for any dealer who is actively engaged in serving his community with quality merchandise. Why not recognize and take advantage of its money making possibilities with the Myers Line? Remember, water is a daily necessity. Every home, every farm, every activity, be it large or small, revolves around water. There is no limitation to your sales efforts for Myers Self-Oiling Power Pumps and Water Systems are built in styles and sizes for any installation up to ten thousand gallons of water per hour. There are no off seasons. Every month of the year is a sales month for the Myers. Write or wire us for a copy of our new catalog and complete information. One of our representatives will see you if you so request.

THE F. E. MYERS & BRO. CO.

ASHLAND OHIO

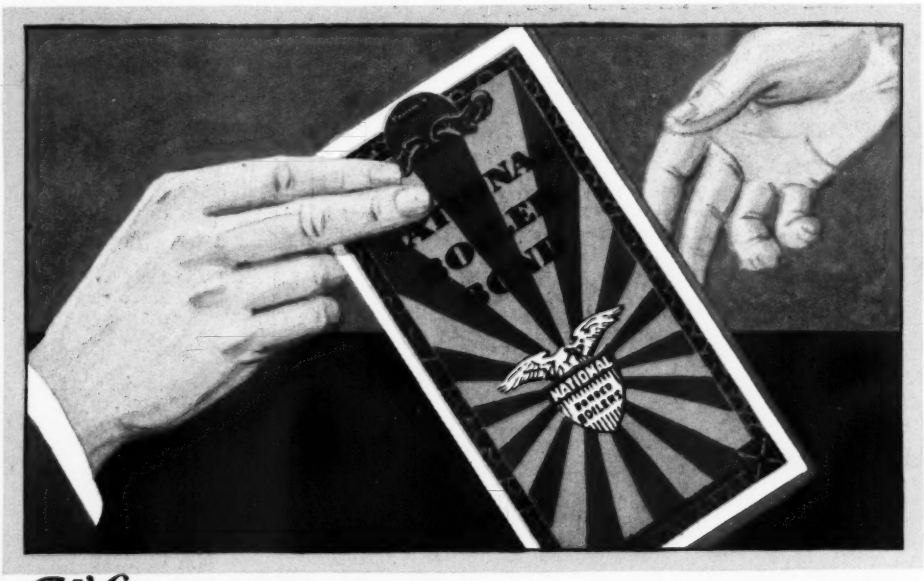
The Myers Engine Driven Self-Oiling Deep Well Power Pump. V-Belt or Silent Chain Drive. Complete with Gas Engine.



The Myers Self-Oiling Deep Well Power Pump. V-Belt or Silent Chain Drive. For Open or Pressure Tank Service.

don't sell cast iron

sell Made-to-Measure Warmth



When HE'S OPEN TO CONVICTION
CLOSE HIM WITH CONVICTION

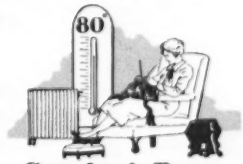
All lingering doubts in the prospect's mind are banished, when you show him the National Boiler Bond . . . Issued by a $39,000,000 corporation, this bond not only guarantees workmanship, material and design, BUT MOST IMPORTANT OF ALL SPECIFIES AND GUARANTEES BOILER PERFORMANCE. It establishes an immediate conviction of quality, carries assurance of satisfaction.

The National *Made-to-Measure* idea has taken the stress off price, put it on performance. It has taken the stress off *equipment*, put it on a *system*, expertly and scientifically installed. It has changed the fitter, in the public mind, from a mechanic to an expert specialist.

You close more sales, make more profit with less employed working capital, through the National Protective Payment Plan. It gives partial payment to your customers—complete payment to you.

The Bond convinces prospects for National Boilers—a trial convinces fitters of the soundness and value of the National 1930 Sales and Advertising plans. In justice to yourself, you should know about them; they mean better business for you.

Red Room



Grandma's Room

Bath Room

Living Room

NATIONAL RADIATOR CORPORATION
JOHNSTOWN, PENNSYLVANIA

NATIONAL
Made-to-Measure HEATING SYSTEMS

Copyright 1930—Nat. Rad. Corp.

TRADE MARK

STREAMLINE

REG. U. S. PAT. OFFICE

Mueller **STREAMLINE** Hard Copper Pipe and Fittings Are the Ideal Materials for Hot Water and Steam Heating Installations

An installation of Mueller **STREAMLINE** Copper Pipe and Fittings in average residence buildings costs no more than any other material generally used for the purpose and is the lowest in initial cost of any non-ferrous installation. Even in larger buildings where the initial cost may be somewhat higher, if the fact is taken into consideration that copper is everlasting and its salvage value is practically 100%, even after years of use, if installed again for the same or similar service, then its cost is very much lower. In addition, smaller sizes in **STREAMLINE** Copper Pipe can be used on hot water lines than corresponding service in other materials generally used for the purpose.

HERE IS SOME VALUABLE INFORMATION FOR USE ON YOUR HOT WATER HEATING JOBS:

Since the shoulder inside a **STREAMLINE** Fitting against which the pipe rests, is the same thickness as the pipe wall, flow resistance is cut to a minimum. **STREAMLINE** Copper Pipe is non-clogging, thereby retaining its full, uninterrupted waterway. These qualities permit the use of the following sizes of radiator connections for gravity hot water heating in medium sized buildings or residences.

Copper Pipe Sizes	First Story	Second Story
3/8"	0-25 sq. ft.	0-30 sq. ft.
1/2"	26-60 sq. ft.	31-90 sq. ft.
3/4"	61-100 sq. ft.	91-125 sq. ft.

The size of mains must be equal to or larger in cross section than the area of all the branches; workmanship must be first class and adjustable radiator valves must be used.

Under the above conditions the Mueller Brass Company will guarantee its **STREAMLINE** Copper Pipe and Fittings in the above sizes to carry ample water circulation.

A Mueller **STREAMLINE** Copper Pipe and Fitting installation radiates very little heat and in hot water lines, steam lines, etc., can be very often installed without insulation.

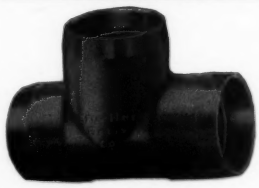
The public is fast becoming copper minded. Appearance and permanence are qualities they demand. It will pay you to become thoroughly acquainted with this amazing new installation that costs you less than any other non-ferrous material for the same purpose but gives your customer a better job and one that will last as long as the building itself.

A **STREAMLINE** Installation
Ypsilanti State Hospital, Unit No. 1, Ypsilanti, Michigan.
Architect: Albert Kahn, Detroit, Mich.
Plbg. & Htg. Contr.: Lorne Plbg. & Htg. Co., Detroit, Mich.

Patent 1,770,852
Patent 1,770,502
Other Patents Pending

Patent 1,770,852
Patent 1,770,502
Other Patents Pending

Patent 1,770,852
Patent 1,770,502
Other Patents Pending



Patent 1,770,852
Patent 1,770,502
Other Patents Pending

Patent 1,770,852
Patent 1,770,502
Other Patents Pending

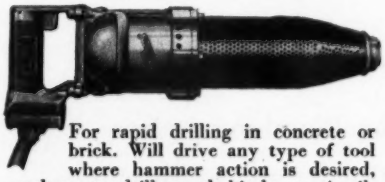
Mueller Brass Co.

Port Huron, Mich.

Three Generations of Brass Making

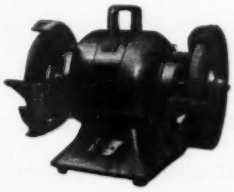
Cut Clean, Round Holes *Quickly* with "Van Dorn" HOLE SAWS

PORTABLE ELECTRIC HAMMER



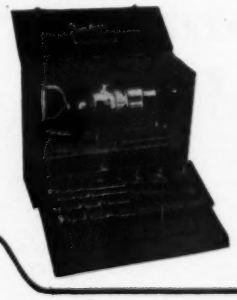
For rapid drilling in concrete or brick. Will drive any type of tool where hammer action is desired, such as star drills, steel chisels, etc. Available in 3 sizes with capacities up to ⅝", 1⅛" and 1½" diameter.

6" BENCH GRINDER



For tool dressing, sharpening hand tools and light grinding of all kinds. This rugged grinder is easily portable and is equipped with rubber pads on base to eliminate vibration. Grinders also available in 7" and 10" sizes.

ELECTRIC TOOL KIT



For those who find it necessary to carry tools to the job. Equipped to do almost any drilling or hole-cutting job. Kit contains powerful ½" electric drill, twist drills, wood augers, hole saws and reamer.

A VAN DORN Hole Saw, mounted in a ½" Van Dorn Electric Drill, enables you to cut clean, round holes in steel, cast iron, brass, copper, bakelite, etc.

By means of the twist drill, a pilot hole is drilled which guides the hole saw, making it easy to do the work quickly and accurately. Hole Saws are ideal for cutting holes in soil pipes, boilers, radiators, sinks, etc. They are available in sizes ranging from ¾" to 4" in diameter.

Mail the coupon below for catalog describing the complete line of time-and-labor-saving Van Dorn Portable Electric Tools.

The Van Dorn Electric Tool Co.
Towson, Md. D. E.

Please send me your illustrated catalog describing the complete Van Dorn line. I am particularly interested in the following:

.....Hole Saws .....Tool Kits

.....Electric Hammers .....Bench Grinders

NAME.....

ADDRESS.....

NAME OF JOBBER.....

To Our Many Friends in the Plumbing Trade

We Wish You A Merry Christmas

And a Happy and Prosperous

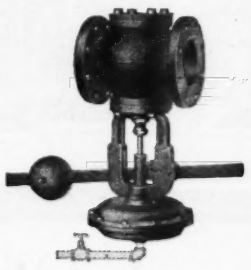
New Year

IN extending to our many friends in the Plumbing Industry our greetings of the season, it is fitting that we also pay tribute to your Industry for the part it is playing in bringing about the high standard of sanitation of which America is justly proud. The American Brass Company is glad to be associated with your Industry, and in sincere appreciation of the support you have given Anaconda Products, we pledge a continuation of our efforts to embody the utmost quality in Anaconda Products and of our full cooperation and assistance not only during the New Year, but throughout the years to come.

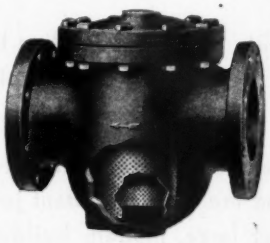
THE AMERICAN BRASS COMPANY ·· MANUFACTURERS OF

ANACONDA BRASS PIPE

. . . . . With McAlear a variation in conditions calls for a control slightly different in design or capacity . . . *never* a makeshift or misapplication, but *always* a control capable of doing the job *right*!

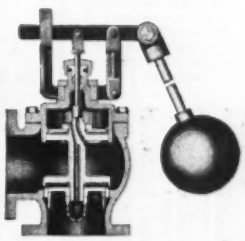


McAlear No. 175
Pressure Regulating Valve.



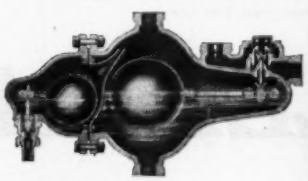
McAlear No. 528
Suction and Pressure Strainer.

McAlear No. 235
Pressure Reducing Valve



McAlear No. 395
Single Seated Float Valve.

McALEAR



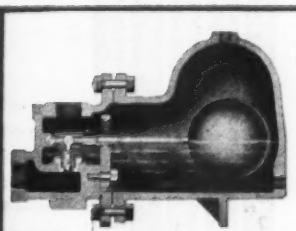
McAlear No. 826
Duplex Water Feeder. Feeds make-up water direct to boiler.

THE McALEAR MFG. CO.
1901-07 S. Western Avenue
CHICAGO, ILL.

McAlear Engineers bring you a wealth of experience on the practical installation and economies of McAlear Products. Take advantage of their help.

Write us—and we'll send you the valuable data in our specialized catalog sections. Do it today.

Sales Engineers in All Principal Cities



McAlear No. 717
Ball Float Steam or Water Trap.

Kings County Hospital, Brooklyn, New York. Bethlehem Pipe used in the heating and plumbing systems.

LeRoy P. Ward, Architect; Clark, McMullen & Riley, Heating and Plumbing Engineers; Daniel J. Rice, Heating Contractor; Charles Darmstadt, Inc., Plumbing Contractor; E. Schwartz Plumbing Supply Co. and Charles F. Guyon, Inc., Jobbers of Bethlehem Pipe.

On the most important jobs

By far the most impressive evidence of the high quality of Bethlehem Pipe lies in the large tonnages that are being shipped daily from Bethlehem's modern pipe mill to meet the growing demand.

Plumbers and heating contractors have tried Bethlehem Pipe, have learned from their own experience how good it is, and are using it on the most important jobs, as for example in the plumbing and heating systems of large, modern buildings where every item of material must conform to rigid standards of quality and service.

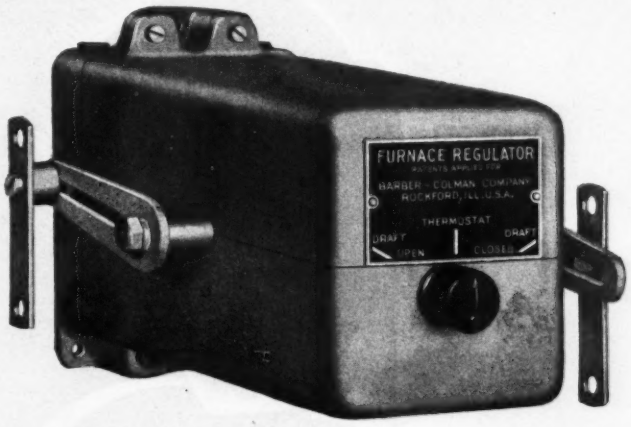
You can depend on Bethlehem Pipe. It is as fine pipe as can be made. Every length conforms to the Bethlehem standard of quality, a standard that in more than half a century of steel-making has never been altered or relaxed.

BETHLEHEM STEEL COMPANY, General Offices: Bethlehem, Pa.

District Offices:
New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis
Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu
Export Distributor: Bethlehem Steel Export Corporation, 25 Broadway, New York City

In order to meet promptly the requirements of jobbers, stocks of both Bethlehem Steel Pipe and Bethlehem Copper-Bearing Pipe in all standard sizes are maintained at the Maryland Plant, Sparrows Point, Md.

BETHLEHEM STEEL PIPE



NOW known as the

H & C
AUTOMATIC HEAT CONTROL

The Barcol Furnace Regulator NOW is distributed exclusively by Hart & Cooley Manufacturing Co., 61 West Kinzie Street, Chicago, the name of this product being changed to the H & C AUTOMATIC HEAT CONTROL. The device is identical with that formerly marketed under the Barcol name. It is operated by the same sturdy, dependable induction motor. In design, construction and finish we believe this Regulator to be of a superior quality that will insure its successful operation over a long period of years.

We bespeak for Hart & Cooley Manufacturing Co. the continued co-operation and goodwill of the trade in their plans for the distribution of the H & C AUTOMATIC HEAT CONTROL.

BARBER - COLMAN COMPANY, Rockford, Illinois

Please address all inquiries regarding this apparatus to

HART & COOLEY MANUFACTURING CO.
61 West Kinzie Street, Chicago

TIME—THAT TOUGH OLD TESTER

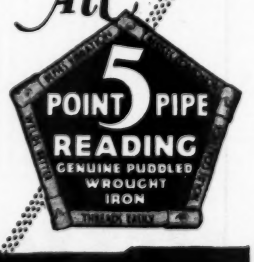
Here is Time, that Tough Old Tester of everything in this world. To his aid, Time calls all the destructive forces of the universe. Years come and go, storms and sunshine, heat and cold make their accustomed rounds, while Time, the Tough Old Tester, broods over the world, trying, testing, destroying.

Yet Time, the Tough Old Tester, does have his troubles. Against one material devised by man, Time and his servingmen falter. The material is genuine Puddled Wrought Iron—the metal of which Reading 5-Point Pipe is made.

Use only Reading 5-Point Nipples with Reading 5-Point Pipe—you'll know them by the indented spiral band

READING IRON COMPANY, Reading, Pennsylvania

For Your Protection. This Indented Spiral Forever Marks All



Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iron

WIN

BRAND NEW CUSTOMERS

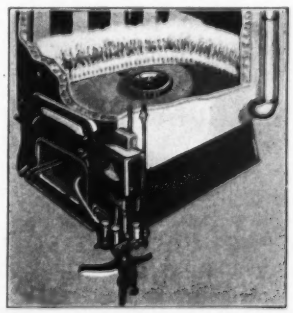
. . . and make new ones out of old . . . with "SILENT"

Two things you can do right away to make more money: *Complete* every *new* heating system you install, with a Silent Automatic oil burner; go back and put "Silents" in every *old* heating plant you have ever installed.

You have a reputation as a heating specialist . . . your customers *expect* you to install for them the most *modern* and efficient of heating systems. That is exactly what "Silent" is . . . for it leads the world in oil burner sales.

Most important of the exclusive features which are responsible for "Silent's" outstandingly dependable, efficient and economical operation is the "*Wiping* WALL-FLAME". This slowly swirling flame constantly licks the entire wall of the fire-pot at grate level. The result is maximum over-all heating efficiency. Because of the quality of this slow flame, the furnace lasts longer. Moreover, the "*Wiping* WALL-FLAME" burns softly . . . it is never disquieting.

"Silent" provides perfect heating satisfaction in any type of plant . . . steam, hot water, vapor or warm air. Therefore, you can pocket two profits on *every* job. Build your business. Cash in on "Silent's" universal "owner satisfaction". Send the coupon NOW.



SILENT AUTOMATIC CORPORATION
12001 East Jefferson Avenue Detroit, Michigan

For Warm Air, Steam and Hot Water Heating Systems—Old or New Homes

SILENT AUTOMATIC
THE NOISELESS OIL BURNER

Made by the World's Largest Producer of Domestic Oil Burners (373)

C O U P O N

SILENT AUTOMATIC CORPORATION

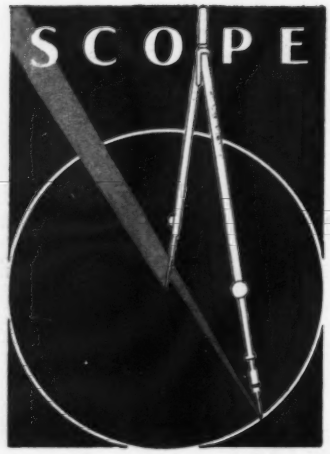
I want a copy of your booklet, "Silent Automatic Oil Heat for the Home" . . . right away.

Name_____

Company_____

Address_____

City_____ State_____

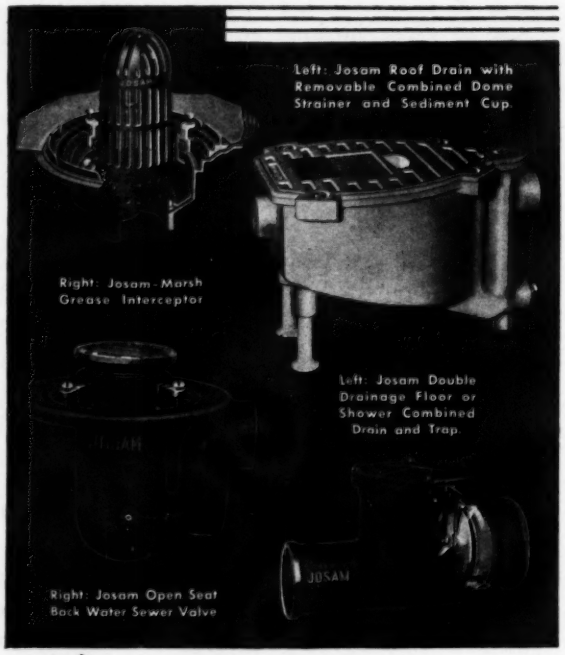


ENGINEERING SERVICE..on *Sanitary Specialties*

THE years Josam representatives have contacted the plumbing and building groups have established a clear understanding of the use and application of the numerous sanitary specialties in the Josam line.

This familiarity has centered around the standard uses of the cataloged items. Josam men are frequently called upon for special assistance in working out unusual applications of drains, interceptors and other products. These contacts have given both Josam representatives and engineers an opportunity to give of their specialized knowledge of sanitary engineering.

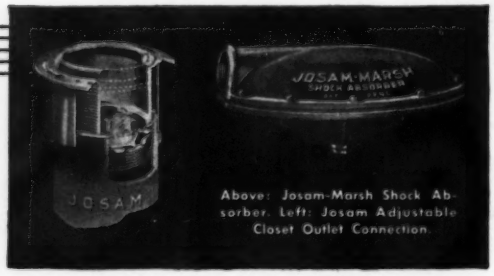
The broad scope of this service has proven extremely helpful and the plumbing contractor has profited. When you are figuring on special or regular applications of this complete line of sanitary specialties consider Josam as your own engineering department. This service in conjunction with the detailed information in Catalog G will prove profitable during 1931.


Left: Josam Roof Drain with Removable Combined Dome Strainer and Sediment Cup.
Right: Josam-Marsh Grease Interceptor
Left: Josam Double Drainage Floor or Shower Combined Drain and Trap.
Right: Josam Open Seat Back Water Sewer Valve

JOSAM MANUFACTURING COMPANY
4904 Euclid Building · · Cleveland, Ohio
FACTORY: MICHIGAN CITY, INDIANA.
BRANCHES IN ALL PRINCIPAL CITIES.

JOSAM PRODUCTS ARE SOLD BY ALL PLUMBING & HEATING SUPPLY JOBBERS

Josam TRADE MARK REG. PRODUCTS

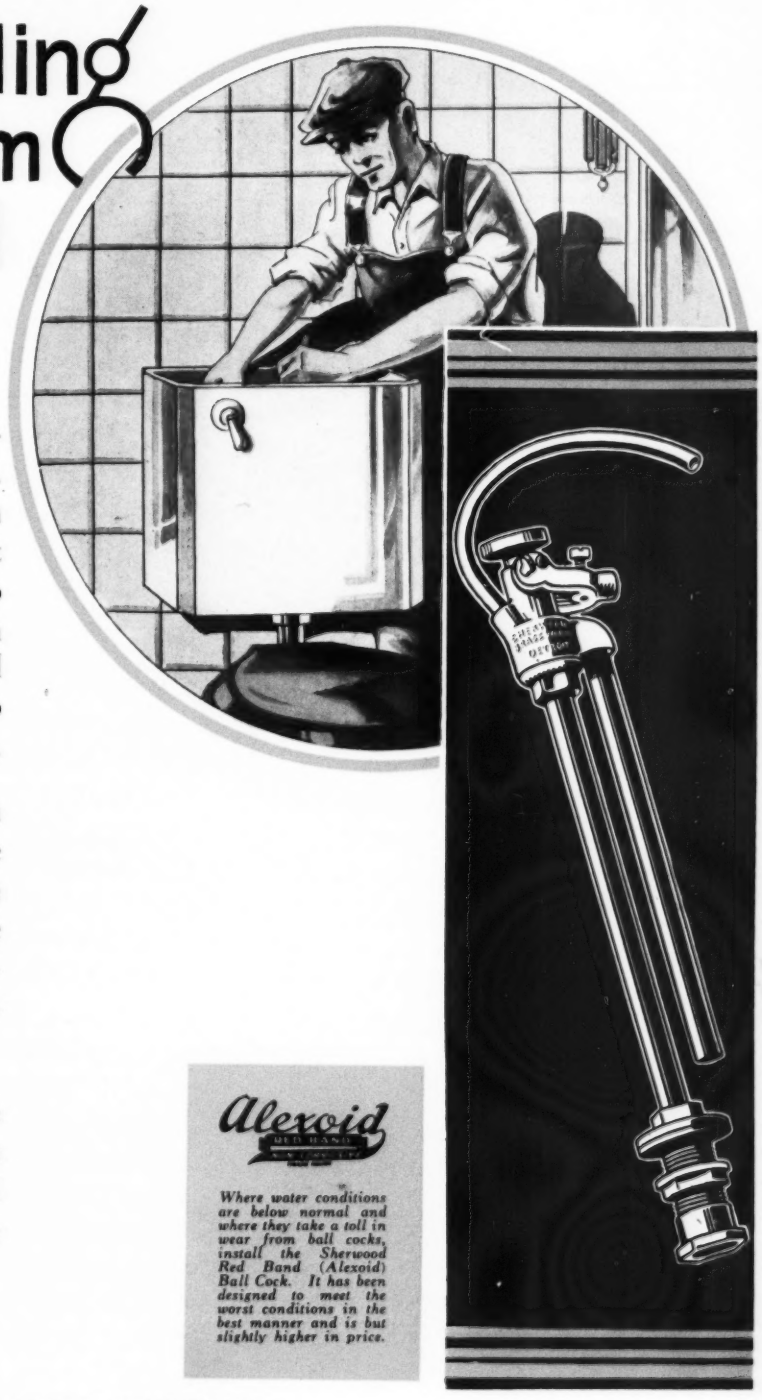


Above: Josam-Marsh Shock Absorber. Left: Josam Adjustable Closet Outlet Connection.

We will welcome inquiries regarding the use and installation of the Josam Products listed below from Catalog G: Josam Drains for Floors, Roofs, Showers, Urinals, Garages and Hospitals; Josam Swimming Pool Equipment, Josam-Marsh Grease, Plaster, Dental and Surgical, Sediment and Hair Interceptors; Josam-Graver Floor-Fed, Gas-Fired Garbage and Rubbish Incinerators; Josam Open Seat Back Water Sewer Valves; Josam Open Seat Swing Check Valves; Josam Adjustable Closet Outlet Connections and Bends, Water and Gas-Tight.

THERE ARE NO SUBSTITUTES FOR JOSAM PRODUCTS

Start Remodeling in the Bath Room with Sherwood Ball Cocks



All you need to get in on big remodeling jobs is a "small" entree. Noisy closet tanks are so common and so bothersome that they present the best opportunity. They're so easily and inexpensively cured with Sherwood Ball Cocks that home and apartment owners will be glad to have you tell them about Sherwoods.

If you start remodeling in the bath room and start it by installing the quiet Sherwood Ball Cock (which closes against any city water pressure without whistling, gurgling or leaking,) you'll find numerous opportunities for selling other, bigger jobs.

Let Sherwood Ball Cocks be the "small" entree and you'll find that they're not so small, either. They'll pay surprising profits. Order one from your jobber now. Try it!

Alexoid
RED BAND

Where water conditions are below normal and where they take a toll in wear from ball cocks, install the Sherwood Red Band (Alexoid) Ball Cock. It has been designed to meet the worst conditions in the best manner and is but slightly higher in price.

SHERWOOD BRASS WORKS

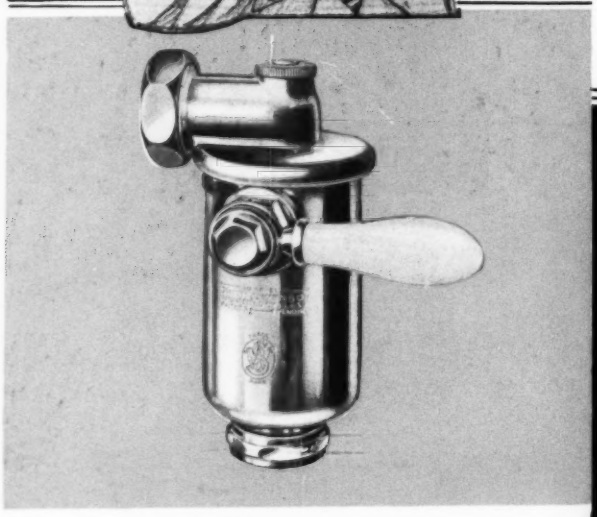
Jefferson and Mt. Elliott Aves. **DETROIT, MICH.**

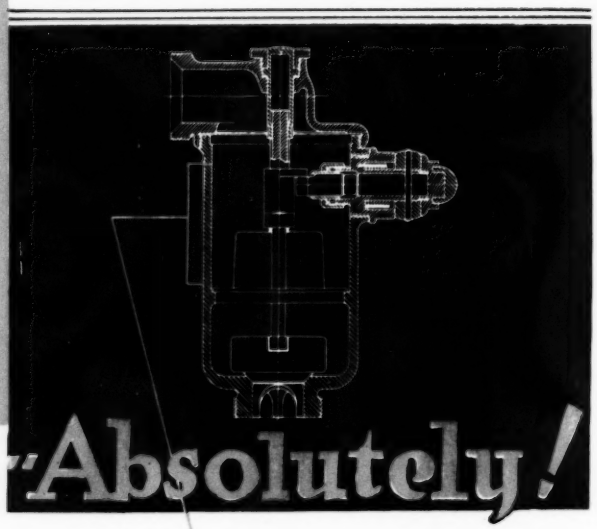
REPRESENTATIVES

J. A. Riordan Co. (Inc.), 1600 E. 7th St., Los Angeles; 303 Colman Bldg., Seattle
E. S. Thompson, 2401 Chestnut St., Philadelphia
Fred G. Hoffman, 831 Edgewood Ave., Trenton, N. J.
Fred S. Wilsey, Plymouth Bldg., Minneapolis

SHERWOOD Ball Cocks

"... Sustained Service?





"Absolutely!

In public building installations where valves are flushed thousands of times weekly under the most trying conditions, the record of Smith & Wesson Flush Valve Service is outstanding. They never vary in their efficiency; and "free servicing" is an almost unheard of factor to the contractor who had installed them.

There is nothing about them to wear out, nothing to slip out of adjustment and nothing to clog or choke.

SMITH & WESSON
FLUSH VALVE DIVISION
SPRINGFIELD MASS.

SMITH AND WESSON FLUSH VALVES

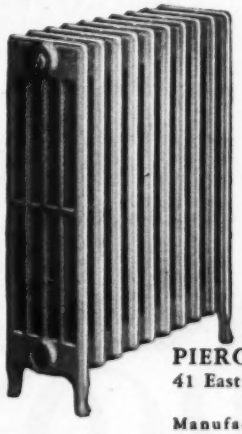
Who wouldn't accept 114 cents on the Dollar?

THERE is no mystery about the success of contractors who base their bids on Pierce-Eastwood Radiation. They have something extra to figure on that competition does not share.

That something is the *extra heating surface* resulting from the scientific design of Pierce-Eastwood Radiation.

Actual figures based on U. S. Government Standard Rating, show that on a 1000 foot job, Eastwood Radiation will deliver from 119 to 140 feet *more actual heating surface* than any competitive make.

Here is an important point of economy that any architect, builder or owner can appreciate. Make use of it! Let a Pierce representative figure with you on your next job and show you how the extra heating surface of Eastwood Radiation can cut down the cost and deliver *plus* satisfaction!



PIERCE, BUTLER & PIERCE MFG. CORP.
41 East 42nd Street · · · New York
Branches in Principal Cities
Manufacturers of Heating Equipment Since 1839

AMES IRON WORKS—Division of Pierce, Butler & Pierce Mfg. Corp., manufacturers of Una-flow Engines, Steel Boilers and Road Rollers.

LAMBERTVILLE POTTERY COMPANY—Division of Pierce, Butler & Pierce Mfg. Corp., manufacturers of Vitreous Sanitary Earthenware.

PIERCE EASTWOOD
BOILERS & RADIATORS

You can "pin your faith" to DURIRON calked joints

—and tell your customer that there's no cement to work loose and permit leakage. You can recommend Duriron as being the really safe and permanent type of acid-proof drain. You can prove on paper that Duriron, in spite of a higher material cost is really the cheapest to use where the waste waters carry acid.

THE DURIRON COMPANY, INC. 410 NO. FINDLAY ST. DAYTON, OHIO

Sales Offices in 36 Principal Cities

DURIRON ACID PROOF DRAIN-PIPE

Our price list should be in your file. Shall we send one?

D-102

TE-PE-CO'S *Speedway* « « «

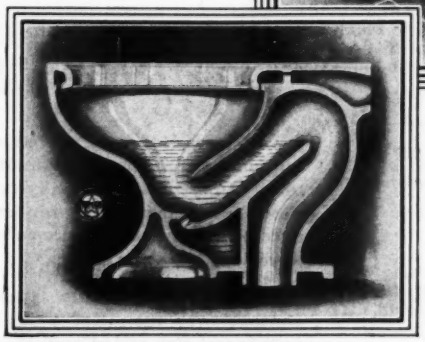
A Fast Seller with Quick Action

CLOGGING of the passageway in a water closet is a frequent source of trouble, caused by people attempting to dispose of articles that will not pass the contorted trapway of ordinary closets.

Te-pe-co Sanitary Engineers designed the Speedway to overcome this trouble. The entire trapway being larger than its opening in the bowl will obviously pass anything that enters it. For this reason, it is particularly adapted to schools, public comfort stations, industrial and commercial buildings.

It is made with back supply for connection to a concealed or seat action valve, in both the regular and juvenile height.

Plate 4521-T— Back Supply Speedway Equipped with Flush Valve. Other models shown in Catalogue.



Details of construction, showing large water surface and unobstructed passageway.

THE TRENTON POTTERIES COMPANY
Trenton, New Jersey, U. S. A.

National Showroom
NEW YORK CITY
101 PARK AVENUE
Entrance on 41st Street

Branch Offices
BOSTON PHILADELPHIA
SAN FRANCISCO

Export Office
115 BROAD STREET
NEW YORK CITY

OUR GUARANTEE

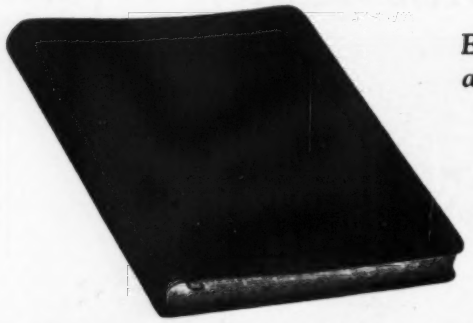
We make but one grade of ware — the best that can be produced—and sell it at reasonable prices. We sell no seconds or culls. Our ware is guaranteed to be equal in quality and durability to any sanitary ware made in the world. The Te-pe-co trade mark is found on all goods manufactured by us and is your guarantee that you have received that for which you have paid.

Some of the Recent Installations of the Speedway

Agricultural School, District No. 1	Grosse Point, Mich.
Ketchikan High School	Ketchikan, Alaska
Sarger-Hokendauqua School	Hokendauqua, Pa.
Williamson Hotel	Williamson, W. Va.
Ulhlein Job	Milwaukee, Wis.
Grand Riveria Theatre	Detroit, Mich.
Providence Gas Service Bldg.	Providence, R. I.
Wilson Theatre	Detroit, Mich.
New York Herald-Tribune Bldg.	New York City, N. Y.
Arcade Bldg.	Asheville, N. C.
Detroit Office & Newspaper Bldg.	Detroit, Mich.
Sunbury Converting Works	Belvidere, N. J.
Raytheon Mfg. Co. Factory	Newton, Mass.
Florence Critterton Home	Detroit, Mich.
Parochial School	Yeadon, Pa.
Nurses' Home, St. John's Hospital	St. Louis, Mo.
Texas & Pacific Hospital	Marshall, Texas
St. Thomas Hospital	Akron, Ohio
French Broad Hospital	Asheville, N. C.
Children's Ward, Tuberculosis Hosp.	Wallum Lake, R. I.
Yankee Stadium	New York City, N. Y.
Park Pavilion	North Milwaukee, Wis.
Belcher & Loomis Warehouse	Providence, R. I.
Filbert Wholesale Bldg.	Philadelphia, Pa.
Coroner's Court Bldg.	St. Louis, Mo.
J. L. Hudson Store	Detroit, Mich.
St. Joseph's Seminary	Cleveland, Ohio
Chemistry Bldg., University of Ohio	Columbus, Ohio
Jupiter School	Buncombe Co., N. C.
Boardman School	Boardman, Ohio
High School & Jr. College	Asheville, N. C.
Junior High School	Indianola, Ohio
McDonald High School	McDonald Township, O.
Leesburg School	Leesburg, Fla.
Weaverville School	Weaverville, N. C.
Ontario School	Columbus, Ohio
Duke Power Co. Bldg.	Charlotte, N. C.
Fox Film Production Plant	New York City, N. Y.
West Virginia Pulp Plant	Mechanicsville, N. Y.

TE-PE-CO
ALL-CLAY PLUMBING FIXTURES

THE HANDY SPEEDLOK
Domestic Engineering Catalog Binder

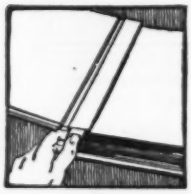


Especially designed for the standardized catalog page adopted by the plumbing and heating industries

The SPEEDLOK is a quick operating catalog binder designed to fit reprints of catalog pages in "Domestic Engineering Plumbing and Heating Catalog" as well as all other catalog pages that conform to the standards adopted by the plumbing and heating industries.

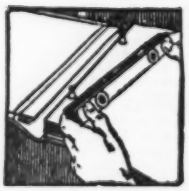
Easy and speedy operation are special features of this binder. A slight pull on the concealed bar under the top cover unlocks mechanism when sheets are inserted. Equipped with bar for removing sheets when changes are made.

Minimum capacity 1¼ inches. By simply unscrewing extension posts capacity can be extended to 2¼ inches. Works perfectly for all requirements—either a few sheets or filled to capacity.



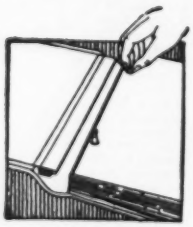
Covers are bound in heavy black Levant Grained Fabricoid, semi-flexible, very durable and attractive looking.

To unlock Binder—Pull out slide bar in top wing. Top cover will immediately fall back.



To lock Binder—bring top wing back over the posts—be sure posts fit in the holes in the top wing — then push in slide bar.

Separate the sheets where desired and slip sheets off the posts. Take out sheets or put in new ones as desired. These three moves take but a few seconds. Each operation is a natural one.



To increase or to decrease the capacity of the binder is a simple operation. The two posts are so constructed that they can be easily raised or lowered to meet the height requirements. Binder posts can be extended from 1¼ inches to 2¼ inches.

Plain White 16 lb. Bond Sheets Punched to Fit Speedlok Binder

Quantity	100	500	1000
Price	$1.00	$3.00	$5.50

Prices for larger quantities quoted on application.

For Plumbing and Heating Contractors—

Many master plumbers and steamfitters assemble working catalogs from standardized catalog sheets filed in binders.

Domestic Engineering is in position to furnish without charge, upon request, loose sheets—which are reprints from catalog pages appearing in "Domestic Engineering Plumbing and Heating Catalog"—of several hundred manufacturers. They are standard catalog page size—10⅝ x 8½ inches — are printed on a good grade of light paper and punched according to the standard adopted by the plumbing and heating industries. These sheets fit the SPEEDLOK binder.

For Jobbers' Salesmen—

The loose-leaf system reduces to the minimum the bulk and weight of catalog material required by the salesman. Only matter actually required for selling purposes need be carried in the binder. It does away with the necessity of carrying entire catalogs, booklets and circulars of various sizes and shapes.

Salesmen using the loose-leaf system have a great advantage over men not using this equipment — to say nothing of the added convenience, time and labor-saving features.

With a modernly equipped loose-leaf binder, the salesman can present his products in a more comprehensive manner than it is possible to accomplish by the old methods. Having all his material up to date in compact form and easily available, he can show latest specifications, answer questions or quote prices more readily.

When orders for binders are accompanied by requests for catalog reprints the binders will be equipped with the sheets desired and shipped complete.

Write for full details regarding loose sheets and binders.

Price of binder—$3.00. Prices on quantities on application.

DOMESTIC ENGINEERING

1900 Prairie Avenue *(Catalog Department)* **Chicago, Illinois**

SEE HOW Sales and Profits Increase

When.....

you have a small rotary... a spark ignition burner... a heavy fuel oil burner ... an automatic burner for big commercial jobs ... a burner for big industrial heat and power plants ... all backed by the same company!

Just analyze one month's sales that ran over a million dollars retail. Here are the figures:

47% of all the burners sold were of the type utilizing the heavier grades of fuel oil. This included installations in homes, apartments and other large buildings.

33% were of the rotary type using lighter fuel oil. The remaining 20% was of the gun type with straight spark ignition.

With only one type of burner, not more than 47% of these jobs could have been sold. To reach the million dollar volume, various types of burners were needed, all specifically adapted to various types and sizes of boilers.

The dealer with only one type of equipment must choose between a restricted sales volume and the danger of installing the wrong type of burner in certain boilers.

Out of our 27 years experience in oil heating exclusively, serving more than 70,000 users from coast to coast and distributing our own oil in our trucks, has come a complete line of equipment utilizing every recognized principle of oil heating.

Our dealers alone have the opportunity to sell one line of oil burners to heat small homes and skyscrapers, to supply power and electricity, to heat water in laundries, to bake bread in bakeries, to grow orchids in greenhouses, to melt lead in newspaper plants and a hundred other uses. Naturally retail salesmen thrive on this diet.

Our dealers are IN the oil burner business. The WHOLE market is theirs. They are selling our burners from $295 up to $60,000, yet their parts inventory, because of the facilities of our many branches and supply depots, is no greater than that of the ordinary dealer. They also have the engineering counsel of our special field staff on all jobs requiring a high degree of technical skill.

A new program of expansion provides an opportunity for several high grade, skilled operators in various sections of the country, who recognize these advantages of representing a complete line.

PETROLEUM HEAT & POWER COMPANY

General Sales Offices and Factories: Stamford, Conn.

PETRO

New York
Chicago
San Francisco
Los Angeles
Oakland
Boston
Baltimore
Philadelphia
Washington
Providence
Newark
Seattle
Tacoma
Portland

NOKOL

A PERFECT COMBINATION—

—for the man who desires his pipe cut quickly, accurately and perfect square end cuts without burr.

The "TOLEDO" No. 40 Automatic Pipe Cutter is the quickest most modern method of cutting pipe on the market today. Knives have positive constant feed, no springs to weaken and get out of order.

The "TOLEDO" No. 40 has no exposed gearing, all fully enclosed. Simply a turn of the hand wheel and the knives feed in automatically. Knives chamfer the pipe to insure easy starting of the threading tool.

When operated with a "TOLEDO" Power Drive 2 inch pipe is cut off in 20 seconds and 4 inch cut off in 65 seconds. Without a doubt the fastest on the market today.

The "TOLEDO" No. 40 Automatic Pipe Cutter as illustrated, capacity 2 inch to 4 inch sells at $60.00. (Slightly higher west of Rockies). Net F. O. B. Toledo.

Write for complete information on these remarkable time and labor saving devices.

"TOLEDO"

THE LAST WORD IN PIPE TOOLS

THE TOLEDO PIPE THREADING MACHINE CO.

TOLEDO, OHIO NEW YORK OFFICE, 72 LAFAYETTE ST.

DOMESTIC
ENGINEERING
DECEMBER 13, 1930

Our Industry

The editor's mail is a cross-section of the industry. And the mail carrier in the last few weeks has been bringing more letters on mail order competition and the direct-to-you house.

♦ ♦

Facts on this kind of competition are scarce and this scarcity makes the menace appear all the more dangerous to many contractor-dealers.

♦ ♦

It is no more helpful to magnify the importance of such competition than it is to ignore it.

♦ ♦

But without definite facts to work from, it is easy to add on a few more million dollars until finally these companies are given credit for plumbing and heating about every job that comes up.

♦ ♦

The contractor-dealer forgets that jobs are no longer coming to him—he has to go out and get them. He forgets that reports of mail order business show declines and apparently assumes that thousands of people are spending millions of dollars with mail order and direct-to-you houses for plumbing and heating material.

♦ ♦

But get almost anyone off this subject of mail order competition and start him talking about his own business and you hear on the other hand that people are not buying, houses are not being remodeled and no one has much of anything to do.

♦ ♦

By what magic mail order people discover so much plumbing and heating business when others can not find it and when these houses can not discover business in other lines, is a mystery.

♦ ♦

A few facts, if they could be obtained, would probably show that, like most mysteries, it feeds on ignorance and starves on truth.

♦ ♦

We do not pretend to have these exact facts and have never met anyone in the industry who did.

♦ ♦

But we do know that ten, fifteen and twenty years ago the same scarecrow of mail order competition was a dark specter.

♦ ♦

Recalling the tremendous advances in sales ability which so many thousands of contractor-dealers have made in the last five years, it is unlikely that the relative position between these two methods of distribution has been changed to any great degree.

♦ ♦

Here at least is one item which a national officer of the master plumbers' association vouches for.

♦ ♦

He made a personal investigation of direct-to-you business in an eastern state, and found that 80 per cent of their buyers were licensed master plumbers.

♦ ♦

A reader told us a few weeks ago of his surprise in finding five licensed plumbers lined up in a mail order store waiting for assignment to jobs.

♦ ♦

The fact that this reader himself had gone in to purchase some material cooled the indignation which we were beginning to feel over the condition he reported.

♦ ♦

This outside competition will not be mastered by magnifying its importance, growing panicky over its dangers—or by buying from them the goods which they are condemned for selling.

◆

"The essential thing is to carry the story to the consumer."—H. W. Seymour.

Leading and Following Through

What Existing American Homes Need

16.1% have no kitchen sinks

17.8% have no water closets

31.7% have no bath tubs

28.7% have no lavatories

71.7% have no laundry trays

In 1927, building was still at a high level. Without checking totals with previous years, it looked as if we were enjoying the same full wave of business. But the downward trend had already started—and profits were getting slimmer. In that year, DOMESTIC ENGINEERING brought out its first material on remodeling as a profitable sales opportunity.

It took almost three full years for the industry as a whole to grasp the fact that, with new building radically off, remodeling offered its most profitable opportunity. During all that time we continued the publication of remodeling material, carried the message to meetings all over the country, and spread far and wide successful merchandising ideas as applied to this old building market.

Then, when the industry had turned to with a will to sell this market (shown in the graphs on these pages) it was time to offer new and even more practical assistance—material that could be used "on the firing line."

First came the booklet: "Remodeling—The Big Sales Opportunity in Plumbing and Heating." This was absorbed rapidly by the field and was followed immediately by the detailed "Simplified Guide for Selling Remodeling Jobs" and, to put something in the hands of the men who were getting into American homes, the "Domestic Engineering Charts of Remodeling Sales and Service Opportunities." These two charts traced the plumbing and heating systems through the building and at every point made clear the opportunities for sales that would be profitable.

Ten thousand copies of these two pieces of remodeling literature—that is, of the booklet and the charts (the "Simplified Guide" being a part of the charts) were in the hands of the industry within a month after publication. Demands came from all over the country for this material, from manufacturers, from wholesalers, and from contractors.

The contracting branch of the industry saw immediately the value of this helpful material. W. H. Graham, secretary of the Merchant Plumbers Association of Alameda County (Calif.) wrote: "We are in receipt of your plumbing and heating chart designed to create additional plumbing and heating work. I must congratulate you on this well thought out and worked out piece of work, and I submitted it to the Association at its last meeting as a part of the educational program for the night." This association secured a hundred copies of the charts so that each member might have one for his daily use.

The Association of Master Plumbers of the State of Maryland asked for copies of the material, and John W. Clark, Executive Secretary, wrote: "We expect to make very good use of same. We consider this most constructive work, and DOMESTIC ENGINEERING deserves the highest of praise for its splendid efforts. If the chart is studied as it should be, then a wonderful prospective list can be made up from same, and the only thing left is for the plumber to make diligent and intelligent calls upon his customer."

The Associated Master Plumbers of Nashville, Tenn., through R. L. Farrar, its executive manager, wrote: "At the last meeting of the Associated Master Plumbers we found the chart of remodeling very interesting. We hope to be able to use these in helping our members give better service to the people in Nashville, and make more profit."

The Northwest Sanitary & Heating Club, of Everett, Wash., made use of the data and James Hall, its manager, has this to say: "We

in the Remodeling Movement

10,000 copies of remodeling sales program reach entire industry through 80,000 calls by salesmen in first 30 days — Campaign is producing business

of the Northwest Sanitary & Heating Club want you to know we appreciate the wonderful work you are doing along these lines."

The booklets were sent on request to wholesalers in sufficient quantities to furnish each salesman with one. The charts were furnished for distribution to the retail trade. Thus, there is no doubt that every plumbing and heating contractor who has a salesman calling on him has had this business building program presented for his attention. After deducting office copies furnished wholesalers and manufacturers, not less than 2,000 salesmen had copies of the booklet placed in their hands, with instructions to bring them to the attention of their contractor customers. With an average of forty customers to every salesman, it will be seen that on at least eighty thousand calls by salesmen on contractors this "follow through" remodeling effort was strongly presented. That means, of course, that many contractors had the matter brought to their attention more than once, because of calls by salesmen for various houses, with all of the advantage of repetition.

The important point is that here was a time when the industry, from top to bottom, was permeated by a constructive selling idea in something like a month's time. That is a truly remarkable achievement in a field, like ours, where there are so many independent units having no more than the normal selling contact with each other. It showed that the industry was ready for this "follow through" on remodeling and that it knew how to take advantage of the material offered.

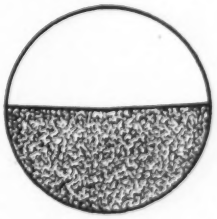
We can do no better than to quote from the many enthusiastic letters from manufacturers and wholesalers to show to what degree the industry did take hold.

A letter sent to members of the sales force of "X" Laboratories of New York, said, in part: "DOMESTIC ENGINEERING has started a big campaign to the steamfitters and plumbers urging them to make real money on remodeling. We want you to please be kind enough to take all the issues of DOMESTIC ENGINEERING beginning with the August 9th issue and read them very carefully. Please bring to the attention of every wholesaler you call on the work that is being done by this publication. General building is off quite a large per cent but there is no reason why the contractor should sit by and wait for some one to build a house. His money should be made now getting jobs replacing faucets, putting in new toilet seats, checking the heating system, etc."

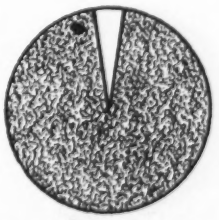
H. A. Garrard, manager of Charles Millar & Son Co., Springfield, Mass., in asking for copies of the booklet, wrote: "This booklet gives a very clear and concise outline of sales possibilities along these lines and we will be very grateful to receive additional copies for distribution amongst our sales organization."

(*Continued on Page 144*)

Heating Needs in American Homes

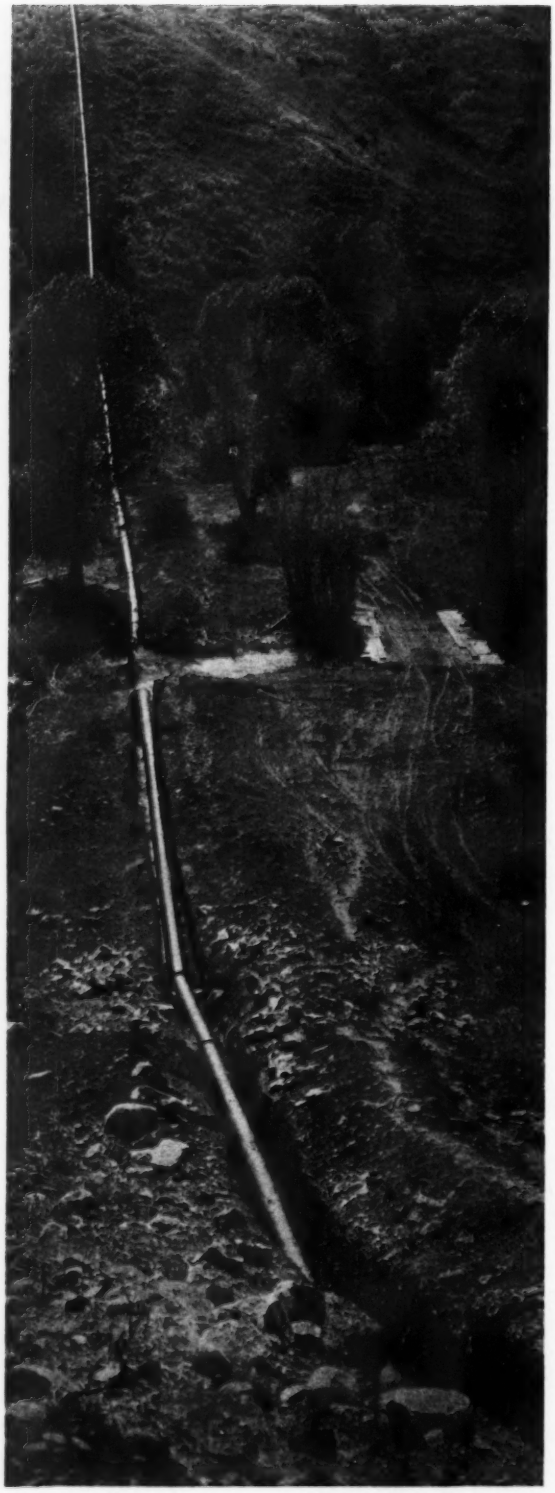


51.3% are still heated with stoves. Of the balance, the graph below shows one year's division between hot air and radiator heat



In two typical cities in one year 96% of the homes built were hot air and only 4% radiator heat.

Pipe Line Welding—A Study of All



THE welding of pipe probably dates back in an experimental way to the early days of the welding industry, but it was not until 1914 that important initial impetus was given to this application, when D. A. Keppelman of the Pacific Gas Light Co., in an article in the trade press, described the practices employed in welding about 20 miles of high pressure gas mains of steel pipe for the Panama Pacific Exposition at San Francisco. The paper focused attention on the possibilities of this method of construction. In the East similar work had been going on in a small and unheralded way and about the same time it came to public notice that in 1911 the Philadelphia & Suburban Gas Company had laid an eleven mile line south of Philadelphia which, during the intervening years, had given very satisfactory service.

Probably the first application of engineering and managerial control of gas welding was in 1919-20, when Noah Wagner, superintendent of welding of the Prairie Pipe Line Co., convinced his superiors of the advantages of welding and successfully laid 15 miles of an 8-in. oil line from Bartlesville to Cherokee Station, Okla., to carry 700 lb. pressure. In 1922 Mr. Wagner, in a paper before the International Acetylene Association, announced that Prairie Pipe Line Co. had standardized on ox-welded lines, and described the results they had obtained in a 104 mile 8-in. oil pipe line, the longest all welded project completed up to that time. At the same meeting, E. E. Lundgren of the Western United Gas & Electric Co. read a paper which was no less important, covering the practices followed and the results obtained by his company in laying all-welded lines for high pressure gas. Mr. Lundgren's statements were notable in that his company's experiences with welded lines for high pressure gas, covering a long period of time, had convinced them that it was more economical to install welded lines than lines of any other type of construction.

From these early days the growth in the application of oxy-acetylene welding of pipe has been outstanding. In 1923 the Lone Star Gas Co. standardized on this type of

Fig. 1—On a welding job of this kind, the mere handling and lowering of the pipe in the trench will strain the welds from 10 to 20 times what they are stressed by ordinary working pressure. Subjecting a weld to a test pressure of 100 or 150 lb. per square inch means nothing in stressing the joint as an index of its strength

the Factors in Modern Welding Practice

By R. W. BOGGS

construction, and since then this entire system of many thousand miles of trunk lines and their subsidiary distribution systems, supplying over 200 communities and cities, are entirely welded. The same is true of numerous others, until today there are literally millions of welded joints giving satisfactory service.

Success in Welding

In making a study of welding, not only pipe welding, but other process applications, the conclusion was arrived at that success in welding is due first to the establishment of proper procedures for doing each particular job, and second controlling the work so that these procedures are followed.

Outlined briefly herewith are the several factors which have been developed for pipe welding. They may readily be applied to other types of welding with slight changes.

The subject may be divided into six groups, namely:

(a) Check on welders.
(b) Selection and inspection of material.
(c) Design of the welded joint.
(d) Preparation for welding.
(e) Welding technique.
(f) Inspection and test.

The first one of these requirements is check of the welders. The day is past when you can sit back and leave it to George or trust that the welding will take care of itself. Each and every welder should pass a test on his welding ability before being accepted for any job. His skill and experience in the type of work to be performed should also be considered. Some companies operating large welding crews on pipe line construction work give their men a regular course of training before permitting them to start work. The tests should be thorough and complete. There are several varieties of tests which may be used, depending upon facilities available.

If it is possible to have a tensile test made of specimen welds, so much the better; but if this is not possible,

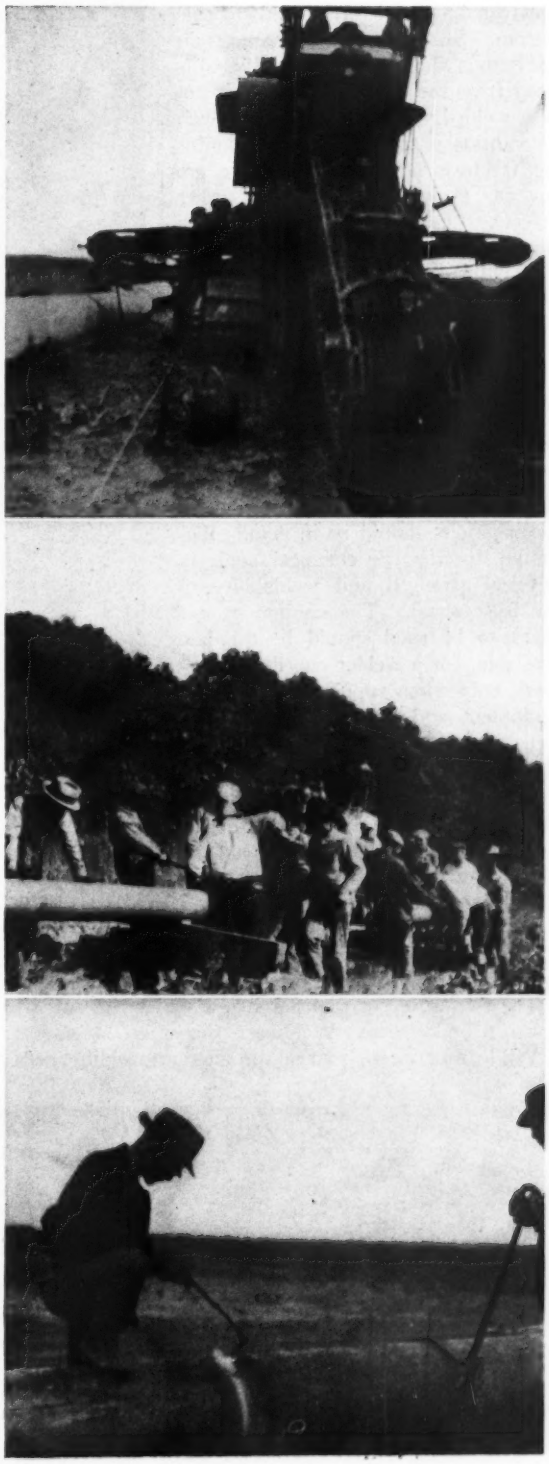


Fig. 2—This group of illustrations will give an idea as to the methods which are used on the big pipe line welding jobs. Procedure control for the small welded job is no less important. In addition, every welder should pass a test on his welding ability before being accepted for any welding work

then a bending test may be performed. The test specimen is placed in a vise and bent over by hammering, the bend being made at the weld and against the vee. Observation should be made that complete fusion has been obtained.

One look will tell you whether the welding is good. See if the weld has penetrated, completely fused to the bottom. See if the weld fractures in the center where it should. If it pulls away from the end of the pipe it is not even welded. It is simply stuck. Such a condition is unforgivable. Examine the fracture as to whether there are any gas pockets, cold shuts or other defects. One does not have to be an expert or an operator to judge. One look will tell you the story as to the competency of the welder.

In addition to these initial tests, each welder's work should be tested periodically, to be sure he is maintaining the proper standard.

Inspection and Selection of Material

All material should be inspected, and in the selection of material the specifications should be in detail; they should specify the chemical analysis, physical strength and weldability of the base metal. The equipment and gases to be used should be the best available, for a welder can do his best work only when supplied with proper equipment and good materials. The choice of welding rod is of considerable importance, and it might be well to say a few words more with regard to this.

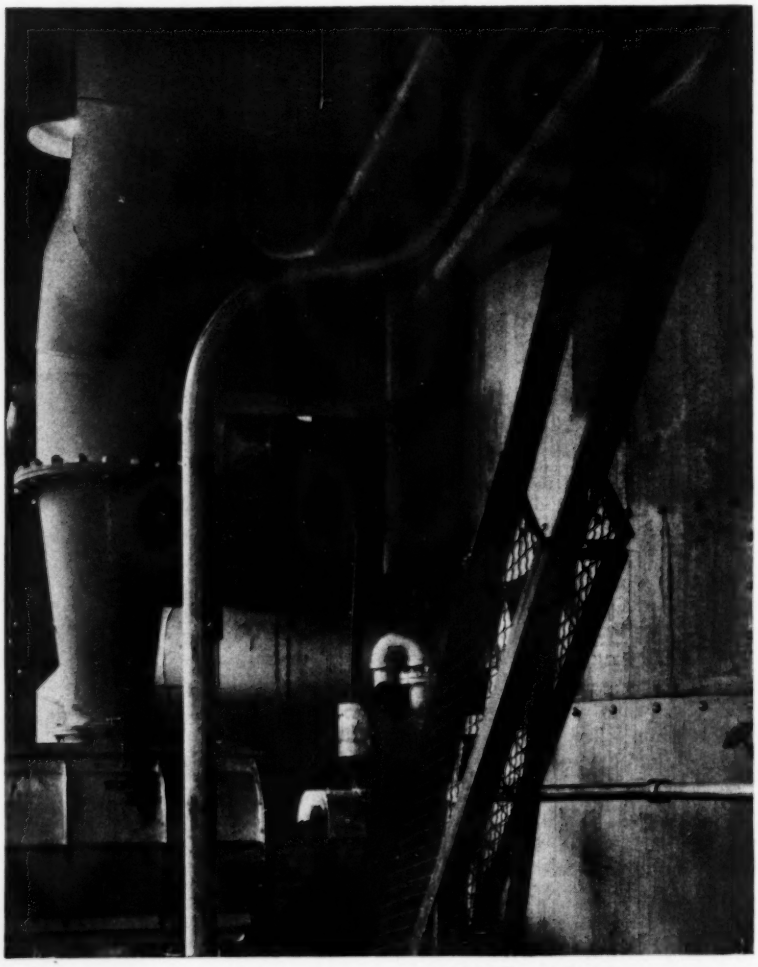


Fig. 3.—This shows draft lines and piping fabricated by welding. The seams of the absorbing tower on the right also are welded

At the present time there are four grades of welding rod commonly used for construction welding:

1. Low Carbon, Soft Iron Rods.
2. Mild Steel Rods.
3. Nickel Steel Rods, and
4. High Test Rods.

The first three can be purchased under the specifications of the American Welding Society.

While the selection of a satisfactory welding rod is of extreme importance, it is of importance to the designing engineer only because it assures weld metal of correct physical properties.

Fig. 4—Here is a header which was fabricated on the job

Design of Welded Joint

Under this heading should be included details with regard to the weld metal, such as penetration required, fusion, and the physical characteristics and dimensions of the weld. The joint that has been used so successfully for years is, of course, the butt weld, in which the pipe is beveled to about 45 deg., leaving an unbeveled portion at the bottom of about 1/16 in. for alignment purposes and handling.

In the case of very large diameter pipe which may be fabricated on the job from a steel plate, specifications should be included with regard to the fabrication procedure. When stock pipe is used which is not furnished with the ends beveled for welding, it is necessary for this to be done on the job; then it should be specified

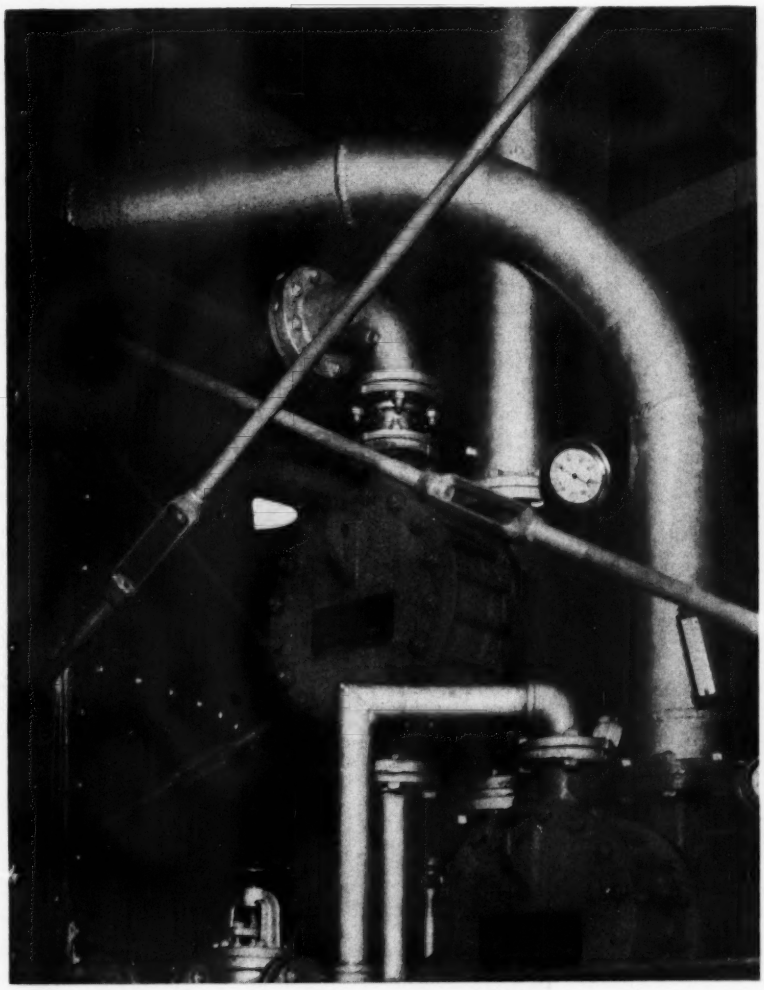


Fig. 5—Good examples of pipe welding. These lines run from the condenser shown in the middle, and the cooler seen at the lower right hand corner

as to type and manner in which the work is to be done —by machine or by use of a cutting blowpipe.

Preparation for Welding

It is important in preparing instructions for the preparation work that thought be given to any factors which may exist at the point of fabrication. In overland work this would include a knowledge of the country to be crossed, while on inside work such things as the interference of structural members must be considered. The instructions should cover the cleaning, alignment, spacing and tack welding operations. The last two mentioned will vary with the size pipe being used.

The pipe comes from the mill with ends already prepared for welding, but when old pipe is used or when the pipe has been cut it is necessary to bevel the ends as mentioned previously. When this has been done the ends should be carefully cleaned of slag or other foreign matter before welding is permitted.

It is important that the pipe sections be properly aligned in order to have well fitting joints and to avoid stresses due to eccentricity. Spacing is required for two reasons—one, to enable the operator to work his puddle down to the bottom and, two, to permit the weld to naturally contract in cooling without setting up undue strains in the weld. We recommend for pipe sizes up to 6 in., 1/8 in. separation; 8 in. to 12 in., 3/16 in.; and for 14 in. and above, 1/4 in., before tacking. This spacing is too often disregarded altogether, because it is easier to line up without spacing.

Another simple fundamental consideration is tacking. Tacking is recommended for two reasons—first, to maintain alignment of the assembled pipe and, second, to serve as a means of partially resisting the contraction of the weld so that the spacing will be ample for proper welding condition and the pipe ends not draw over each other and so prevent penetration.

Welding Technique

Under this subject should be outlined the factors governing the actual welding operation. The proper size of welding head to be used for the different thicknesses of pipe to be welded and the gas pressures to be used, as well as the proper size welding rod should be mentioned. In addition to this, the type of weld should be specified, whether flat or ripple, as well as its width.

Inspection and Test

Under the subject of inspection must be considered the qualifications of the inspector, his authority and his duties. It has been found by actual experiment that an experienced welding foreman or inspector can tell at a glance whether the welder is doing his work properly, welding through to the bottom of the vee and working out the slag or any other inclusions.

Inspection should be carried on during the time the welding is actually done and not be of perfunctory character of observing simply the test and looking at a few welds to see if they are large enough. The inspector need not necessarily be a welder, but he must be familiar with the fundamental requirements. The time to do this work is when and where the welds are being made. He should see that the pipe is properly aligned, that the spacing is correct, that welders are melting down to the bottom of the vee, and that they are not using excessive

Fig. 6—Welding a big pipe line

heat and needlessly large tip sizes to speed up production. The size of the weld is not so important as these other features.

In regard to testing, practices vary widely. Some

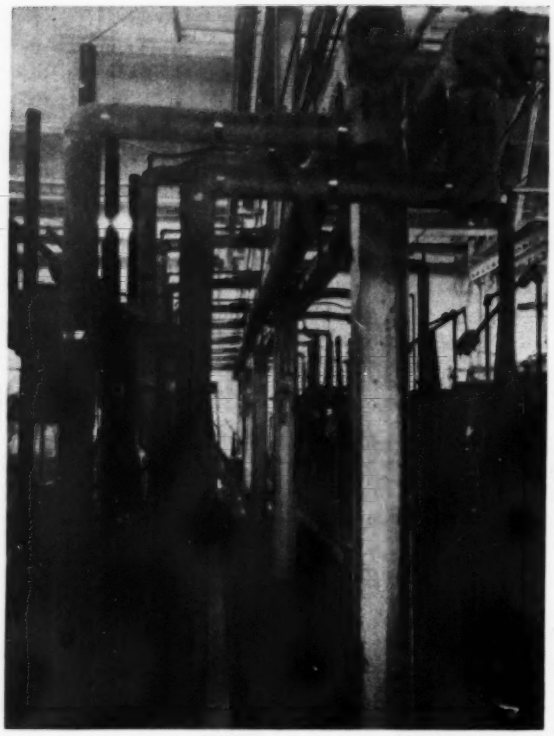


Fig. 7—In these welded lines, notice the insulation job which was made possible

companies carry this to one extreme of testing the line in short sections after only a few joints are welded. Other companies go to the other extreme and do not test the line at all. I have seen cases of hundreds of miles of welded line where the first test it received was when the gas was turned into the line.

Although testing is desirable, in comparison with the other features of welding practice I have outlined testing is the least important. If the other features and requirements are properly looked after, testing would become unnecessary. Welded joints, properly made, should never leak. The pressure of 100 or 150 lb. means nothing in stressing the joint as an index to its strength. We subject our oxwelded pressure vessels to hydrostatic tests until the stress in the shell is about 27,000 lb. per sq. in. To subject a 10-in. line, with ⅜-in. wall, to a comparable stress on the weld and pipe, the pressure required would be nearly 1,900 pounds per sq. in. The mere handling and lowering of the pipe in the trench will strain the welds to 10 to 20 times what they are stressed by the pressure.

A common criticism of the welded joint is that it is impossible to satisfactorily inspect it, that the welder is able to gloss over the work and make a good appearance though the inside of the weld may be wholly unsound. This is true only when a careless organization encourages shoddy work, and the inspection work is performed by one wholly unfamiliar with the indications of good work. Important work in welding should not be assigned to men or organizations whose integrity is not certain, any more than a large bridge or other important structure would be entrusted to an inexperienced or irresponsible firm.

Let us review these six requirements of welding practice to be covered in welding specifications.

A. Check of the welders to see that only competent operators are used; further, that they prove their ability by successfully passing qualification tests.

B. Selection and inspection of material so that only suitable weldable material is used and that proper welding rod is selected.

C. Design and layout of welded joint to insure that the joint is correctly designed for welding.

D. Preparation for welding to see that the preparation and assembly is the best for welding.

E. Organization and welding technique so that the welding is carried on in the most satisfactory and economical manner and that the welding itself or technique is correctly done.

F. Inspection and test to check whether the welding procedure has been followed and to see that proper welding results. The test of the complete work is an additional insurance that the welding installation will give satisfactory service.

As an illustration of what procedure control can do when it is properly applied, I might cite an instance

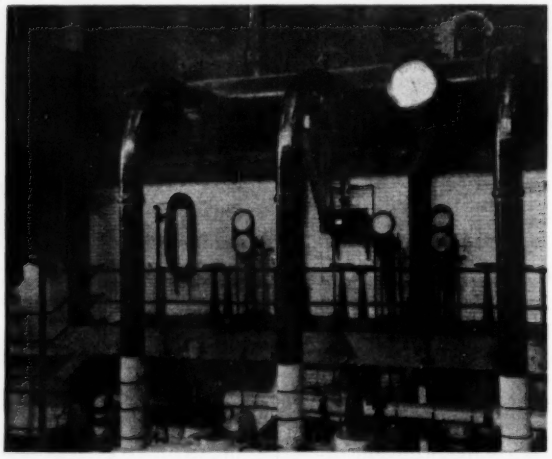


Fig. 8—Careful planning made it possible to make the welded connections into the header for the three exhaust lines with a plant shut-down of only a few minutes

where it was used on the Pacific Coast. It was desired to construct a seven-mile water line of 24 and 30 in. steel pipe. Because of prohibitive freight rates on this type of pipe when shipped from the East, it was decided to have flat boiler plate shipped via the Panama Canal, and then to roll it into pipe upon arrival, welding both the longitudinal and circumferential seams on the job; in other words, the entire line was fabricated by welding.

Not being familiar with the correct way to handle such an undertaking, the constructing company asked for aid from their oxygen supplier. An outline was prepared for the job. A service operator supervised the work and trained the welders for two weeks. The line was laid, as outlined in the procedure control, and met with complete success.

Unless carefully watched, new construction work presents considerable fire hazards which, in guarding against, offer an opportunity for the plumbing contractor to supply and install additional and temporary equipment.

Accident Proves Need for Booster Pump

Fig. 2—A hot rivet, thrown wild, started a blaze on the sixth floor. The inadequacy of the city supply was shown and the contractor was called upon to overcome the problem for future emergencies

AN ACCIDENT unearthed a construction problem when steel erectors were working on the new Ohio Bell Telephone Company building in Dayton, Ohio. A red-hot rivet went wild and, instead of being quickly hammered into a joint of the structure, it dropped among some inflammable materials on the sixth floor.

There was a fire. It was a minor blaze, of course, because it was discovered immediately and the final result was good rather than damaging. Considerable difficulty was experienced in extinguishing the fire leading to the discovery of the problem—the city water supply was not furnishing water in usable pressures to the sixth, seventh, eighth, ninth and tenth floors.

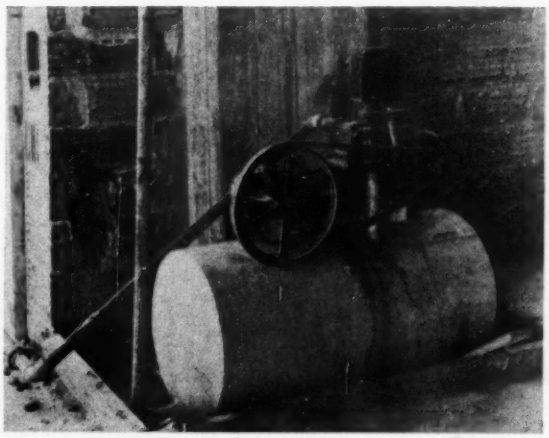


Fig. 1—Automatic water system which was placed on the sixth floor and which supplied water for the floors above. It carried a 50-lb. pressure

But it was no accident that solved the difficulty. The experience with similar problems on other building jobs was resorted to and equipment was added to the plumbing to give satisfactory water supply, including fire protection, on the upper stories of the building.

That equipment was an automatic water system, designed to work under 50 pounds pressure. In the Ohio Bell Telephone building, it was placed on the sixth floor, forcing water in the system of pipes from that level to the top story.

Installation of the equipment was not difficult. The pump required but two connections to put it into the lines and that, with the addition of a check valve, completed the job.

Operation of Booster System

Here is how a booster system works in buildings where the city water pressure is insufficient to supply upper stories:

Where the city pressure is sufficient at all times to supply water to part of the floors as was the case in the Ohio Bell building, the booster system is installed on the floor where the city service ceases to function satisfactorily.

The pump then takes water from the city mains at the low pressure afforded at its level and boosts it to a pressure equal to the needs of the rest of the structure. In the Ohio Bell building it is necessary to boost the pressure to 50 pounds.

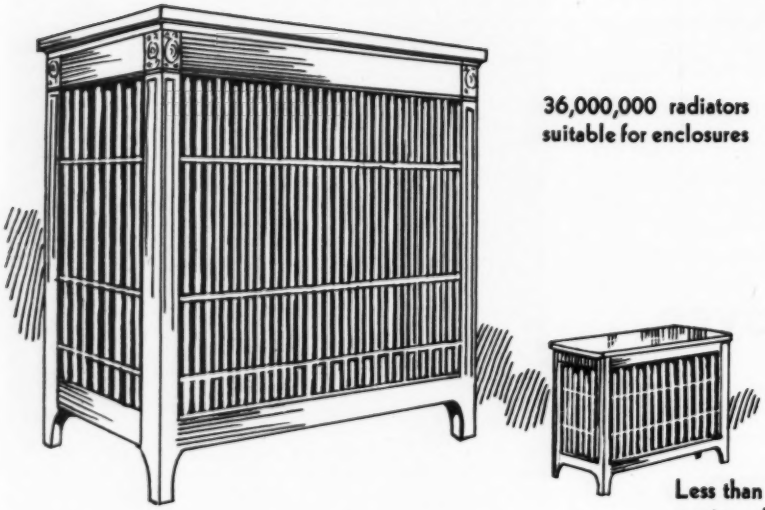
The pump is entirely automatic. When the pressure falls slightly below 50 pounds, an automatic switch starts an electric motor until the desired pres-

(Continued on Page 169)

Big Market Exists for

Radiator Enclosures

and —



36,000,000 radiators suitable for enclosures

Less than 1 per cent now equipped with enclosures

A charming photo showing the beauty and usefulness of a radiator enclosure

IT IS conservatively estimated that more than 36,000,000 radiators in existing one and two family dwellings in the United States are suitable for radiator enclosures. This figure excludes bathroom, kitchen and other radiators which home owners may not wish to enclose.

Approximately 1,500,000 radiators go into new residential construction during the normal building year. Half of these as prospects for enclosures, excluding again bath, kitchen, etc., radiators, would make the annual new residential construction market for enclosures about 750,000 units.

Less than 1 per cent (or about 360,000) of all the radiators in existing one and two family dwellings are enclosed. In round figures, this means that about 35,600,000 enclosures are needed in these dwellings.

Adding to this 35,600,000 units the 750,000 units to be derived from new construction each year, the total market for radiator enclosures in old and new residences right now is more than 36,000,000 enclosures.

—Here's How Contractors Sell Them

The telephone, newspaper advertising, direct mail, and personal solicitation help contractors sell enclosures

How Kleinhans salesmen show pictures of actual installations

JOHN KLEINHANS, head of Henry Kleinhans, Inc., plumbing and heating contracting firm of Elizabeth, N. J., in one evening sold $1,200 worth of radiator covers as a result of a telephone call that originated in a window display. Profits from this business, Mr. Kleinhans estimates, pay the rent on his store. He figures that 25 per cent of his enclosure sales result from show window installations.

In addition, newspaper ads, direct mail, outside salesmen and the journeymen are used as selling agencies. The outside salesmen work on a 10 per cent commission basis and supply their own cars. Most of their business is done in the evening. Pictures of actual installations are used.

Sales arguments follow the line that, aside from its decorative features, the radiator cabinet is useful, economical and saves coal bills, doctor bills and repair bills by preserving an even heat in the home, by maintaining a healthful humidity, and keeping drapes, floors, rugs and furniture free from dirt and dampness.

The A. S. Blunk Heating Co., of Louisville, Ky., averages six tips out of every ten calls for some form of heating equipment, service or repairs.

This firm employs a salesman who works on radiator covers exclusively. The Blunk salesroom is used to display radiator enclosures to prospective customers.

This is a picture out of the book of installation photographs

Improve Methods of Treating Sewage

By W. A. HARDENBERGH

A large gas engine driving a compressor which furnishes air for the process of sewage treatment. The engine is driven by sewage gas

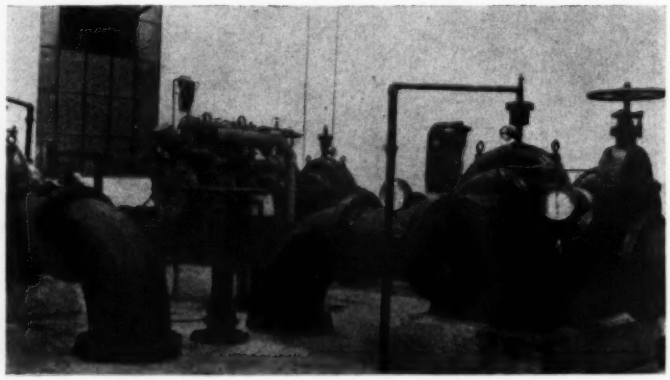
New Uses Found for Its By-Products

Engineers in cities all over the country, as shown by Mr. Hardenbergh, an authority on water works and sewage disposal, are changing plants and methods. A by-product, marsh gas, is now being used in many cities. The contractor will find much to interest him in the story of these improvements

PRACTICALLY all of the methods of sewage treatment involve a separation of the solid from the liquid matter composing sewage. Though small in volume, representing usually less than 2 parts in a thousand, the solid matter is sufficient to render the entire mixture objectionable and dangerous to health. The removal of a portion of it is one of the first steps in treatment. This more or less solid material resulting from the primary treatment process is called sludge, while the partly purified liquid residue is called the effluent.

Perhaps the most promising and generally used methods of treatment today are the sedimentation and separate sludge digestion, and activated sludge methods, though the Imhoff tank type of treatment plant is still of great value under many conditions. In Fig. 1 are illustrated typical forms of installations of these three types. The method of treatment is essentially as follows:

In the activated sludge type of plant, the sewage, after a preliminary settling period, is passed slowly through a long narrow tank in contact with biologically active sludge, meanwhile being agitated by means of air bubbles or, in some of the latest plants, by mechanical agitators, such as paddles. Oxygen is taken from the air bubbles or absorbed from the



This view shows a smaller gas engine driving a centrifugal pump which is used for pumping the sewage. Inasmuch as the larger engine is the more economical, the engine driving the pump is only operated when it is necessary to take the motor-driven units out of service

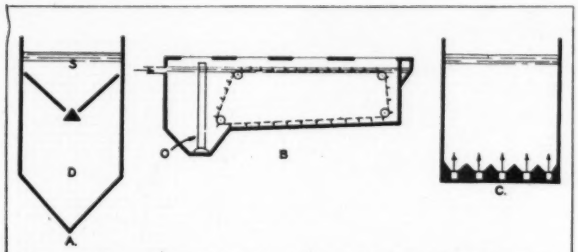


Fig. 1—Showing types of treatment plants; a, Imhoff tank in which s is the sedimentation chamber and d, the digestion chamber; b, sedimentation tank with a continuous sludge collecting device which moves the sludge to the outlet o; c is an activated sludge tank, showing the ridges and the furrows through which the air is applied as shown by the arrows

atmosphere during the period of mechanical mixing. This mixing and agitation is continued for from two to ten hours, depending upon the strength of the sewage, and upon the degree of purification desired.

Following the aeration period, the sewage is passed into a sedimentation tank where the suspended matters may settle out. The final affluent is quite clear and free from suspended or colloidal (very fine) matter, contains relatively few bacteria, and usually does not require further treatment. The sludge resulting from this method of treatment is voluminous, and rather difficult to treat, since it does not dry very readily on beds, and is not very susceptible to other usual forms of treatment.

In the sedimentation and separate sludge digestion process, the sewage is passed through a settling tank, in which the grosser materials are removed by sedimentation. Instead of allowing the settled material to remain in the tank and decompose or digest there, as in a septic tank, it is removed at frequent intervals —in some instances continuously by means of collectors or scraping devices which operate along the bottom of the tank, as shown in Fig. 1(b).

The effluent from this process requires further treatment, as with sprinkling filters or sand beds, or it may be diluted with an adequate volume of water. The sludge requires further digestion before it reaches such a stage that it will dry readily on sand beds. This is accomplished by storage and digestion in specially constructed tanks.

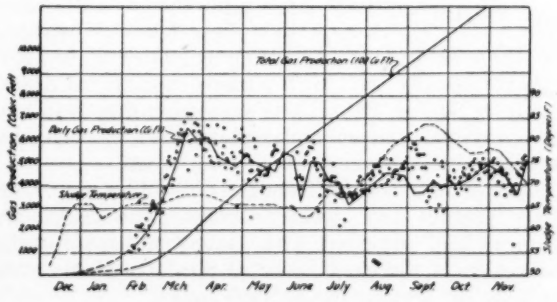
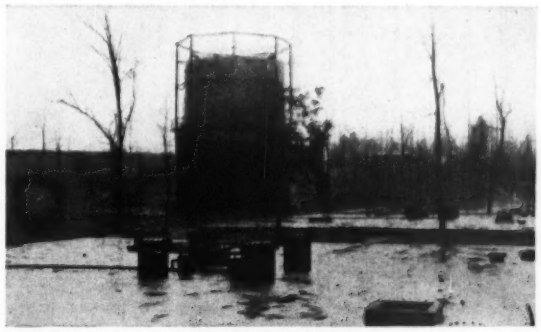

Total Gas Production (100 Cu Ft)
Daily Gas Production (Cu Ft)
Sludge Temperature
Gas Production (Cubic Feet)
Sludge Temperature (Degrees F)
Dec. Jan. Feb. Mch. Apr. May June July Aug. Sept. Oct. Nov.

Fig. 2 — Daily and total gas production metered, and sludge temperature

In the Imhoff tank type of plant, both the settling and sludge digestion operations go on at once, but in different compartments of the tank and without interference. In the upper portion, shown in Fig. 1(a), the process of sedimentation is going on, while in the chamber below sludge digestion is proceeding. The results are much the same, though usually not quite so good, as those obtained by means of the sedimentation and separate sludge digestion process. The effluent also requires further treatment.

Methods of Sludge Disposal

The sludge resulting from any of these methods may be dried on underdrained sand beds. When dry, the material is unobjectionable and has some fertilizing value. However, the undigested sludge resulting from the separate sedimentation process must undergo decomposition and reduction before it will dry readily and without nuisance. This is accomplished by digestion for a period of about 6 weeks in specially constructed tanks. After undergoing this period of decomposition, the sludge dries usually without difficulty. In the Imhoff type of plant, di-



This shows the gas collection domes and meters on the sludge digestion tanks. The gas holder about three-fourths full of gas is shown in the background

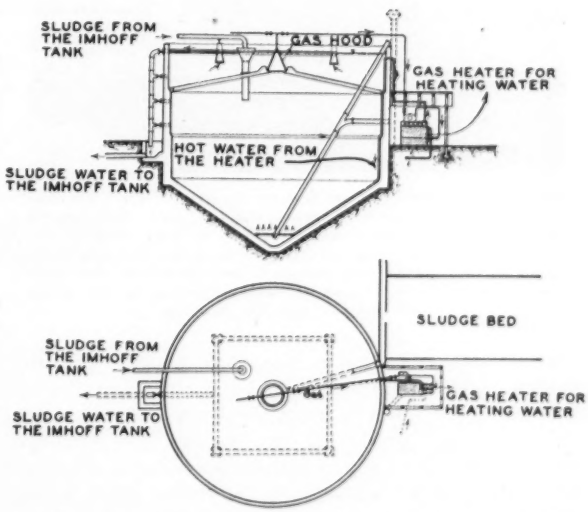
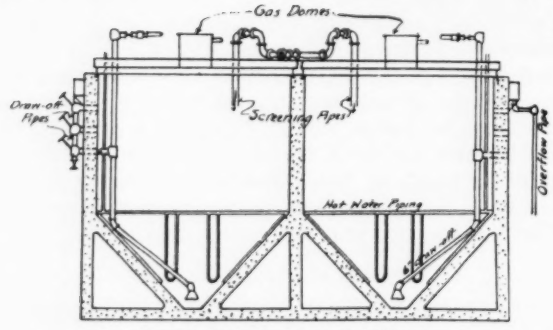

SLUDGE FROM THE IMHOFF TANK
GAS HOOD
GAS HEATER FOR HEATING WATER
HOT WATER FROM THE HEATER
SLUDGE WATER TO THE IMHOFF TANK
SLUDGE BED
SLUDGE FROM THE IMHOFF TANK
GAS HEATER FOR HEATING WATER
SLUDGE WATER TO THE IMHOFF TANK

Fig. 3—Provision for gas collection of digestion tank at Essen-Rellinghausen, Germany



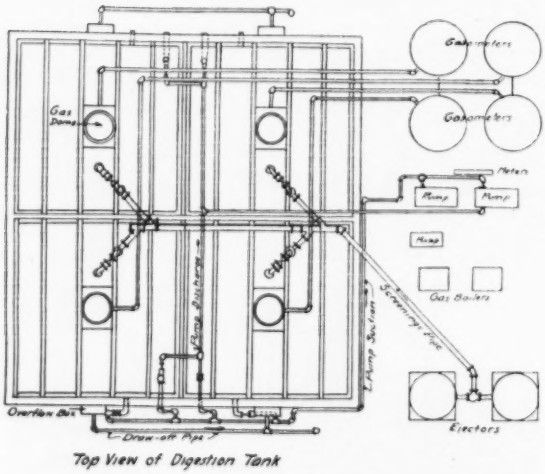
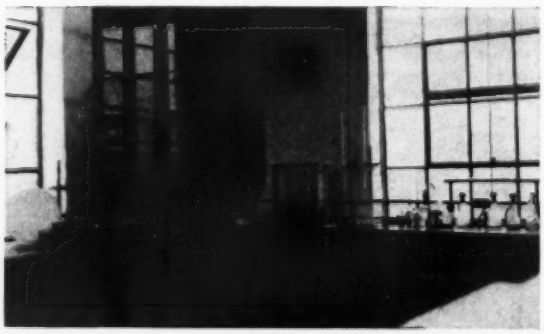


Fig. 4—Portions of the Milwaukee plant showing gas collection devices



View of the chemical laboratory in which the chemical work in connection with the plant is done. The gas is used in the laboratory for whatever purpose may be required. In addition to the specific uses for the gas indicated in the photograph captions, the operators also have connected pipes to stoves at various points in the plant and use the gas for heating

gestion goes on within the tank proper and the sludge, when removed, is in such condition that it will dry quite quickly upon the beds.

The sludge produced by the activated sludge method presents a much greater problem in disposal. It is much more voluminous, contains more water, and does not dry out so well. Various methods have been used for its disposal. Milwaukee has solved its problem by manufacturing a commercial fertilizer,

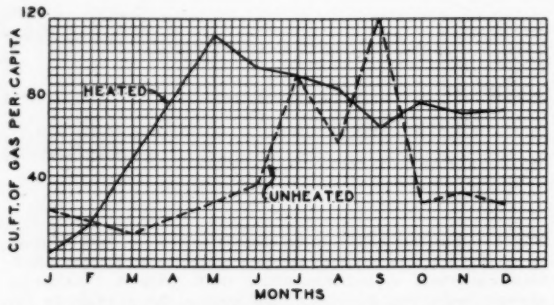


Fig. 5—Typical gas production from heated and unheated tanks during a year

"Milorganite," from its sludge, and some other cities also have been successful along similar lines. Dewatering by passage through vacuum filters, driers, and other apparatus has been generally satisfactory, though costly. Disposal by digestion in tanks has proved quite successful. Sludge which has undergone the required period of storage and digestion may be dried on underdrained sand beds.

Gas Formation and Collection

The digestion of sludge in these tanks is accompanied by the formation of gas. This is ordinarily composed of about 75 per cent of methane (commonly called marsh gas), which is inflammable; 20 per cent of carbon dioxide; and 5 per cent of other gases, including nitrogen, hydrogen and hydrogen sulphide. The heat value of this gas is quite considerable, ranging upward from around 600 B.t.u. per cu. ft., and averaging around 700. The amount of gas produced per person per day averages, in America, around 0.6 to 0.7 cu. ft., depending upon the temperature, type of plant, and operation methods. Fig. 2, from Public Works, shows how gas production is influenced by the temperature. During the colder months, digestion processes are slow and gas production is limited. With warmer weather, bacterial activity increases and gas production rises.

In a number of recent plants, this gas has been collected and used for various purposes, among which are driving engines operating air compressors and pumps; incinerating screenings and other refuse; for heating and lighting around the plant; for heating water to raise the temperature of the digesting sludge; for power; and even for lighting streets.

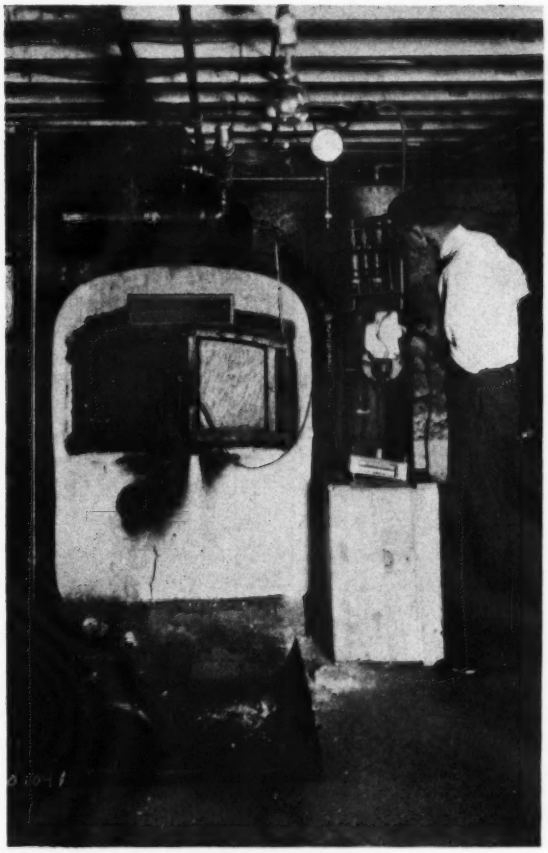
It has been estimated by a number of authorities that a plant which requires a digestion tank capacity of 40,000 cu. ft. when operating at 70 deg. Fahr., will operate equally well with a tank capacity of 28,000 cu. ft. at 80 deg. Fahr. The savings in first cost, and in operation, upkeep and maintenance as well, are considerable and very real in such a case.

Collection of the gas from the tanks does not ordinarily present any great problem. The tanks are covered and provided with domes or caps for the collection of the gas. Some of the later plants even provide for regular gas storage tanks.

The Downes floating cover, which was designed by John R. Downes, operator of the Plainfield, N. J.,

(Continued on Page 84)

By
A. H. SENNER



The CO_2 content of the stack gases is expressed in per cent by volume and is measured as shown at the left

CO_2 Tells If Oil Burner's Air Supply Is Correct

Article No. 2

How many realize that there is a definite relation between the CO_2 content of the stack gases and the excess air supplied? For no excess air supplied, the CO_2 content is found to be about 15 per cent and when 50 per cent excess air is supplied the CO_2 content is reduced to about 10 per cent. Other definite relations are discussed in this article.

THE average oil burner dealer of today is far better educated in the principles of combustion than he was several years ago, when the present writer first engaged in domestic oil burner research. I remember clearly, as we were preparing to test a certain domestic oil burner, that a burner representative was asked what per cent CO_2 had been attained with his device. In reply he stated that he could get anywhere from 15 to 40 per cent CO_2. After reading the following discussion of combustion it should be evident why he was not asked any more technical questions on combustion.

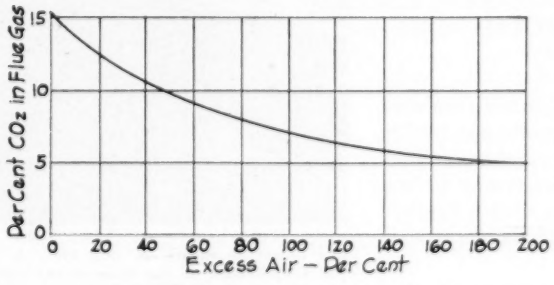


Fig. 1—Variation of CO_2 with excess air

CO_2 is the chemical symbol for carbon dioxide, and carbon dioxide means simply completely burned carbon. Combustion, or in plain terms, burning, is any kind of chemical combination in which heat is evolved or given off. The oil burner

engineer is particularly interested in the combination of oil with the oxygen of the air. These chemical combinations which occur during combustion, always take place in certain definite weight relations. These weight relations depend of course upon the particular fuels with which we are here primarily concerned.

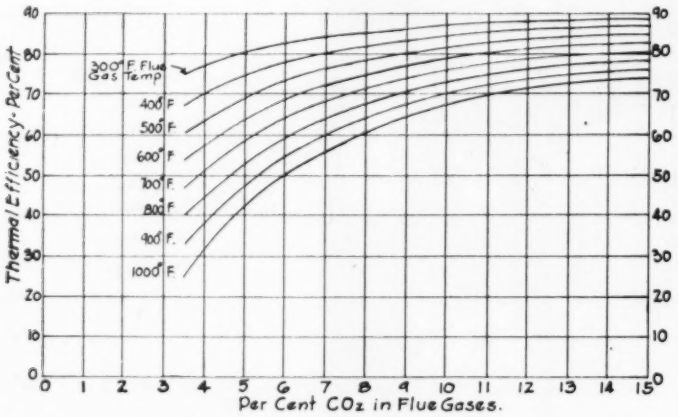


Fig. 2—Variation of efficiency with CO_2 and stack temperature

As we saw from the table presented in the previous installment of this series, oil consists principally of carbon and hydrogen, with the former in preponderance. When sufficient air is supplied and the temperature conditions are right, carbon will combine with oxygen to produce carbon dioxide or CO_2, and this relation when expressed in symbols is as follows:

$$C + O_2 = CO_2$$

Since 2.67 lb. of oxygen are required to burn 1 lb. of carbon, the relation when expressed in terms of the weights entering is,

$$1 + 2.67 = 3.67$$

That is, when 1 lb. of carbon combines with 2.67 lb. of oxygen for complete combustion, the result is 3.67 lb. of carbon dioxide. Similarly, when hydrogen and oxygen are combined, that is, when the hydrogen is burned, water vapor is formed. This is the water vapor which condenses if the stack temperature is excessively low. Perhaps many of the readers have observed this condition in the exhibits of certain freak boilers at heating expositions. In this combination, the symbols are as follows:

$$2H_2 + O_2 = 2H_2O$$

According to the weights entering into the reaction, one lb. of hydrogen combines with 8 lb. of oxygen to form 9 lb. of H_2O or water vapor. The weight relation is:

$$1 + 8 = 9$$

Actually, sulphur is present in small amounts and this burns to sulphur dioxide, but for the sake of simplicity this reaction will be omitted. From the reactions presented above, it is possible to calculate the quantity of air required to support the combustion of the various oil fuels.

Just as the chemical combinations involved in the combustion of oil always take place in definite weight and volume relations, the amount of heat liberated is also definitely fixed for any given fuel or element in the fuel. Thus, when one pound of carbon is completely burned to CO_2, 14,544 B. t. u. are liberated. Definite amounts of heat are also liberated when hydrogen and sulphur are burned to water vapor and sulphur dioxide. Thus when oil is burned completely a certain amount of heat is liberated, and for the range of domestic fuels as we know them today, the difference in heat content is not great. The comparatively heavy oils like the No. 3 domestic fuel generally contain a few per cent more heat units per gallon than do the lighter fuels such as the No. 1 domestic fuel. On the basis of the pound, the No. 1 fuel contains more heat units, but since we buy oils by volume, that is by the gallon, the heat content per gallon is the more significant.

Cause of Soot and Carbon

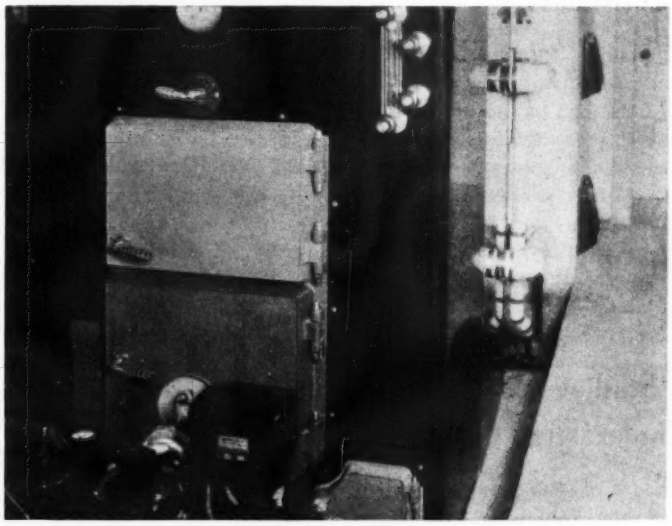
The amount of heat evolved or liberated by the burning of a certain amount of a given oil is always the same if combustion is complete; this is true even if more air is supplied than is necessary for complete combustion. The heat evolved by combustion with excess air will not be decreased, but the excess air acts as a chilling medium or diluent and decreases the temperature of combustion and the efficiency of the heat transmission in the boiler. Undue amounts

The operator shown in this view is taking a test sample of flue gas. The instrument on the door of the CO_2 analyzer is a draft gage and the circular device is for measuring the stack temperature

of excess air are accordingly undesirable. It is the quantity of this excess air which is required that determines to a large extent the efficiency of a burner installation. Insufficient supply of air does not permit combustion to reach the final stage of completeness so that under such conditions all of the heat which is in the oil is not liberated. Worse too than this is the fact that soot or carbon is deposited in the heating passages and objectionable quantities of smoke are produced.

Table No. 1 shows the heat value of various oils selected at random, in B. t. u. per pound and B. t. u. per gallon. The number designation indicates whether they are the number 1, 2, or 3 fuels according to the new commercial standards.

For purposes of practical estimates the difference in heat values of the various oils is not significant. It is of sufficient accuracy to assume that domestic oil burner fuels contain on the average approximately 19,750 B. t. u. per pound and approximately 139,000 B. t. u. per gallon.



Where a burner consumes 2 gallons of oil per hour with 50% excess air, approximately 4000 cu. ft. of air will be required per hour, if operated continuously. The need of the burner for air should be kept in mind by the installer particularly where the boiler is pitted below the surface and the door of the room is closed as in this illustration

Table No. 1, Heat Value of Various Oils

Grade of fuel	B.t.u. per lb.	B.t.u. per gallon
No. 1	19,991	137,138
No. 1	20,572	140,095
No. 2	19,471	136,686
No. 2	19,959	140,511
No. 3	19,386	142,681
No. 3	19,236	136,500

Air Consumption in Burning Oil

To burn one pound of the fuel oil of the type which we are discussing requires 14.2 lb. of air, assuming no excess is supplied. To burn one gallon of oil requires about seven times that amount and in terms of volume this would be approximately 1300 cu. ft. Assuming that the oil is burned with 50 per cent excess air, one gallon of fuel would then require about 2000 cu. ft. of air. Let us think of this requirement in terms of the small domestic job. Assume a burner is adjusted to consume 2 gallons of oil per hour. Let us assume also, that 50 per cent excess air is supplied. Under these conditions, if the burner operates continuously for a period of one hour, approximately 4000 cu. ft. of air will be required. In other words, the entire volume of air in an ordinary cellar might easily be displaced once an hour merely to supply the air for combustion required by the oil burner. When comparatively large quantities of oil are burned in restricted spaces, the importance of providing auxiliary or special air inlets to the boiler room becomes apparent. Yet this is the sort of provision which most of us are apt to overlook—at least once at any rate. The figure 2000 cu. ft. of air required for the complete combustion of one gallon of oil should be borne in mind by the installer of oil burners, particularly when the boiler is pitted below the surface and there is no easy access for the air.

Relation Between CO_2 and Excess Air

Many of us speak rather free and easy about excess air, CO_2, etc. How many realize fully that there is a definite relation between the CO_2 content of the stack gases and the excess air supplied? From the above equations the amount of air required for different percentages of excess can be computed and the per cent CO_2 in the stack gases can also be estimated. For no excess air supplied, the CO_2 content is found to be about 15 per cent, and as more excess air is supplied to a flame, the CO_2 content decreases according to the curve presented in Fig. 1. For example, when 50 per cent excess air is supplied, the CO_2 content of the stack gases is reduced to about 10 per cent. Since we have shown that the maximum CO_2 content with oil fuel is about 15 per cent, the statement of the oil burner agent to the effect that his burner was capable of producing 15 to 40 per cent is seen to be utterly ridiculous.

The CO_2 content of the stack gases is expressed in per cent by volume and is measured by means of an Orsat apparatus.

Excess Air and CO_2 Content

Coming back to Fig. 1, it is seen that as the excess air increases, the CO_2 content of the stack gases decreases. What does this mean with regard to efficiency? It means that excess air decreases the temperature in the combustion chamber and it increases the loss of heat up the stack. When the excess air is increased, all other things remaining equal, the stack temperature rises. The combined effect of stack temperature and CO_2 content is shown in Fig. 2. These curves are based on the assumption that the oil is completely burned in any given boiler with a certain resulting stack temperature and CO_2 content, depending upon the amount of excess air supplied. The vertical co-ordinate shows thermal

(Continued on Page 169)

Editorials

Merry Christmas!

BEFORE another issue of DOMESTIC ENGINEERING will have come off the press, Christmas will be a part of the history of 1930. With the utmost sincerity we extend to each of our readers the heartiest of wishes for a pleasant holiday season. Certainly there is greater cause for merriment than there was last Christmas—if only because we're a full year nearer the inevitable upturn in business. Some authorities say it has begun—and that's reason for added pleasure.

Cost Studies for Wholesalers

IN the report of one of the wholesalers' groups, analyzing the "high lights" of an annual survey of the business done by members of the group, the following cost studies are proposed for the future: Inventory analysis and control, operating expenses by commodities, operating expenses on out-of-stock and brokerage shipments, unnecessary services, and classification and costing of sales.

This program, growing out of past efforts as it does, is not merely an ideal. It is practicable and attainable—with co-operation from the members of the group.

No executive need have pointed out to him the value of such studies. With accurate information on these five subjects before him, he will have something extremely valuable as a guide in the management of his business.

Perhaps unconsciously all American business is moving towards what we see to be the instinctive purpose back of these studies. It is easy to see their practical value to the individual business man. But what we think is the instinctive drive back of such studies is the desire to escape from some of the worst of the evils which have arisen under the American competitive method of doing business.

European commentators on American business methods almost invariably point to these evils and wonder that the admitted genius of the American for business affairs has not yet eliminated them.

Due to many things—surplus production, too many firms in every phase of American business, and the resultant rush for the business that is to be had in any one year—our system has had the effect of shifting the emphasis in competition from fitness and quality to price, personalities and favors. And it has made us look sharply to bargaining, with almost the viewpoint of the old horse-dealer.

Take an illuminating example. A recent news item announced the letting of a contract for a public building to the second low bidder. The low bidder had requested leave to withdraw, because it had been discovered that a very large item of cost for materials had been overlooked in making up the estimate.

Suppose that the bids had been opened and the contract let before the oversight had been discovered? Under our competitive system, the low price got the job. The low bidder signs a contract to live up to the specifications. The owners of the new building, in a case of this kind, can not be unaware of the advantage accruing to them in getting a building in which there is some equipment for which they have not paid. When it comes to competing with other buildings for tenants, the advantage is with them.

That is a short-sighted economic practice, for which, in one way and another, all of us, including the owners of the building, pay. An economic loss spreads itself with the same facility as an economic gain. The wholesaler and the manufacturer back of the contractor in the case cited may lose—if the contractor can not absorb the loss. And the cost of doing business goes up by just that much.

The pressure works differently in the different branches of the industry, but it is there. If the studies proposed by this group of wholesalers come to a successful fruition, we may have manufacturer and wholesaler and retailer viewing each other's problems with a clearer eye. We will cease, under our competitive system, to be willing to let another branch of the industry carry costs that are logically ours. We will begin to realize that if the wholesaler can not secure an adequate gross margin on a given set of products, those products will suffer in favor of others on which there is an adequate margin.

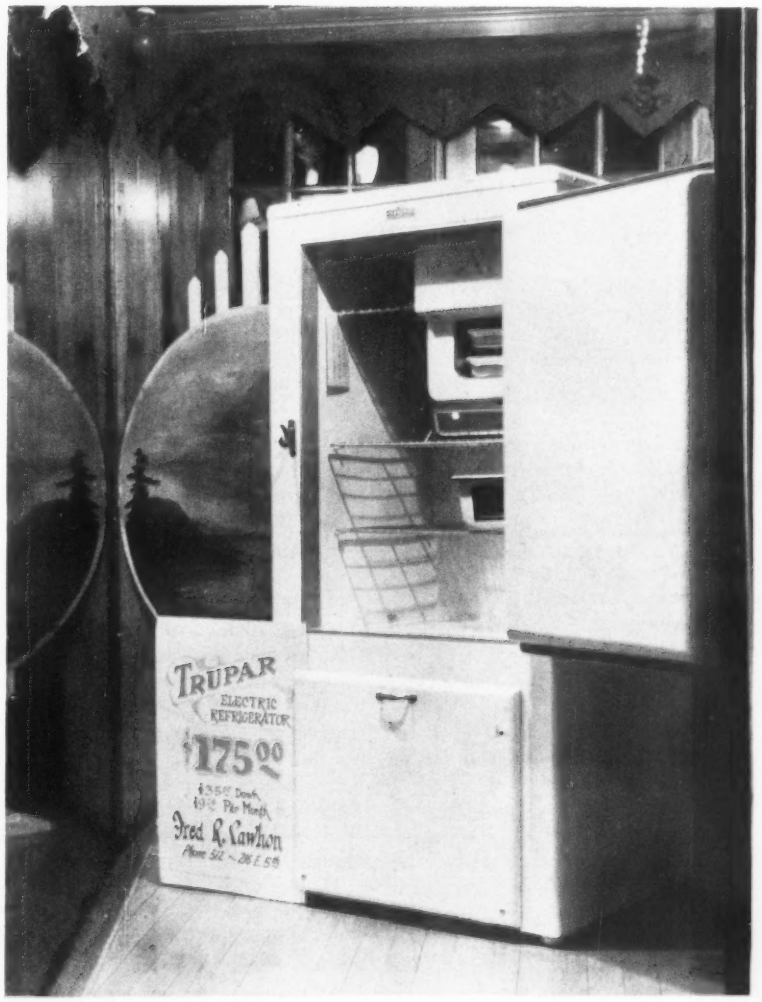
Similarly we will begin to understand that those breaches in the principles of credit extension, made with the sole purpose of securing one job or another, and which leave a heritage of lame competition in their wake, cost us all something in the end. There may be some satisfaction in feeling that our industry isn't the only one that has turned economic waifs loose during the boom, to pester us during less easy times,—but it's a slim satisfaction.

When, throughout American business, but more particularly in the building construction field, we shift the emphasis back where it belongs, buying quality and paying for what we get, rather than studying bids with an eye on price and price alone, there will be profit in business. Studies like those planned will do much to make clear the economic shortsightedness of past practices.

PLUMBING & HEATING MERCHANDISING

These Contractors
Met Changing Conditions
With Changed Methods

Specialties bring profits to one contractor and an individual deferred payment plan helps another contractor to land remodeling jobs



The reason for the street address on the card is that this display is in a vacant store window, rented specially

CHANGING business conditions require changing methods to meet them. There are various ways of doing this, of course, but one of the healthful tendencies in the retail branch of the plumbing and heating industries has been in the fact that contractors have turned in great numbers to the handling of specialties related to the field. Thus, in a period when new building is off in volume, these men have still a number of prospects to work on. Older homes, equipped with out-of-date appliances, offer a wide field and one which, in a way, lack of new building brings into prominence. People who would like to own new homes are deterred from doing so because of conditions. But their attention is then turned to making the older home more convenient and comfortable.

This is the market that plumbing and heating contractors have been working, in increasing numbers, offering oil burners, coal stokers, elec-

These generous ads get attention. They are three columns wide and ten inches deep

tric and gas refrigerators, and other appliances. Among the contractors who have made this shift to meet changing conditions is Fred R. Lawhon of 216 East Fifth Ave., Arkansas City, Kans.

A member of the industry, who is close to Mr. Lawhon and who knows the details of his activities, says:

"Realizing early in 1930 that the plumbing industry was going to suffer because of the general business depression, Mr. Lawhon decided to add a specialty department to his business, and make up for the apparent loss in plumbing and heating. Mr. Lawhon studied the possibilities in the sale of electric refrigeration. Already four heavily advertised refrigerators were being handled in his city and it meant intensive advertising to put it over, without solicitors and with only a little time to devote to personal selling.

"It took nerve to pay for expensive advertisements in local papers, but it soon brought in prospects, and before the summer season was over Mr. Lawhon had overcome the loss in plumbing from profits in the specialty lines.

"Mr. Lawhon first realized what specializing meant when he took over the agency of a gas water heater in March of 1929, and through intensive advertising sold more heaters in a year than he had sold in all the years he had been in business. Recently Mr. Lawhon has added to other good specialties, a washing machine and an electric ironer, and with the same type of an advertising campaign, he looks forward to a fine addition to the specialty department.

"Although Mr. Lawhon has his own place of business, well-located, he has extended his display activities by renting various empty store windows, located close to the center of town on the main business street, and has such unusual displays that they have drawn comments from dealers in his home town and in adjacent cities."

A Profitable Year

Mr. Lawhon feels that his profits in these specialty lines have meant a profitable year. It is difficult to estimate the value of these activities in so far as his regular line of plumbing and heating is concerned. A good many of the sales of refrigerators and other specialties are made as a result of calls at homes to estimate jobs, or while looking after work being done in homes. If Mr. Lawhon discovers that the home lacks an electric refrigerator, or any of the specialties he handles, he urges the prospect to drop in at his store for a demonstration. And, of course, sales of these specialties bring Mr. Lawhon in contact with those who need, or will need, his services as a plumbing contractor.

There is not space to reproduce Mr. Lawhon's advertisements in full, but those which we show in part are generous in size and strong in appeal. They measure three columns in width and ten inches in height, a size that assures good position in the page, and the fact that, whatever the position, they will be seen and read. A touch of humor enlivens copy that carries fundamental appeals to the home owner as the head of a family.

Naturally, any improvement in business conditions will have a double effect on Mr. Lawhon's business. His regular plumbing business will climb back to its old levels—and his specialty department will climb to new levels.

Mr. Dempsey's window informs the world of his time payment plan

Time Payments — Through the Bank

and other plans show how this contractor has met changes in business since 1890

"I HAVE interested myself in following closely the changes business has taken and adjusted myself to each change since, back in 1890, when I established a plumbing and heating shop in practically the same location at which I am now operating and, above all else, I have always used my bank to the fullest extent," was the reply made by Thomas F. Dempsey, 7223 Woodland avenue, Philadelphia, Pa., to the question, "What in your opinion is the chief essential to good, profitable business for a master plumber?" Continuing, he said: "Nearly forty years ago I established banking connection and since then have given as much consideration to retaining the confidence of my bank as I have to getting business. Experience has taught me that the amount of one's deposits does not have as much to do with accomplishing this as does the following of sound principles in every-day business, as bankers, in deciding whether or not loaning money to a business man is a safe risk, look to the methods of doing business exercised by that individual or his firm."

So much for that. Getting into an explanation of the first part of his statement—that having to do with keeping up with business development—Mr. Dempsey said he has devoted in recent years, since giving up specializing in new work, a great deal of his time to merchandising through following promptly every lead that is presented. Later on he emphasized the necessity for promptness. "The matter of getting leads is not difficult when all available sources are put to use," he continued. "These principally are not through journeyman contact with the customer, the timely mailing of literature supplied by

CREDIT THE DRAWER

$\$$_____ DARBY, PA. _____ 19____

_____ AFTER DATE _____ PROMISE TO PAY

TO THE ORDER OF _____

_____ DOLLARS

AT THE FIRST NATIONAL BANK OF DARBY

WITHOUT DEFALCATION, VALUE RECEIVED.

No. _____ DUE _____

William Mann Company

_____

P. O. ADDRESS

Here are the two notes described in the article

manufacturers in all outgoing mail, and customers vouching to their friends for the quality of our work. My journeymen, one of whom has been with me thirty-six years and all of whom have worked for me for a considerable length of time, have been trained to check up on all the plumbing and heating in each of the houses in which they work, suggesting new material and reporting details to me. This I feel is a part of the work of the mechanics. I do not pay them any commission, but I do give each a substantial cash Christmas present, which, in amount, is determined by the volume of business done during the year. The use of literature supplied by manufacturers with my name and address imprinted has proved its value in getting business through timely or seasonal mailing with bills or letters to customers. In the instance of automatic gas water heaters this method has been instrumental in drawing a number of customers to the store during the summer where I have hooked up the heater that heats the water for our apartment above. I have also an office lavatory hooked in, which illustrates its operation, and I have our home gas bills for months back to show the cost of gas consumption."

Promptness Lands Job

Promptness is vital in handling the sale of a job, Mr. Dempsey pointed out, and as an example of what he meant cited the details of an instance that involved the replacement of a warm air furnace with a boiler and radiator job, saying: "An old customer of mine moved about five miles out into the country where she had bought an old house. Some weeks afterward she dropped into the store and stated that she was going to have a new heating plant installed, adding that she had already asked for figures from three plumbing and heating contractors about a week previous but had not heard from them. Asking her when she would be at home and learning that it would be at about three o'clock that afternoon, I drove out, measured up her house, went back to the store and figured up the job. I then telephoned her and asked if I could see her at 8:30 the next morning to submit my estimate. She suggested that I mail it as there was no rush. I gently persuaded her to agree to let me come out at 8:30 the next morning to talk the matter over. I got there promptly with a contract all drawn up ready to sign, but when she saw it she demurred. I then said, 'Mrs. ————,

*$*_____ *19*

_____ *after date* _____ *promise to*

Pay to the order of _____

_____ *Dollars,*

without defalcation, value received, with interest. 100

And further, _____ do hereby authorize and empower any Attorney of any Court of Record of Pennsylvania, or elsewhere, to appear for and to enter Judgment against _____ for the above sum, with or without declaration, with costs of suit, release of errors, without stay of execution, and with _____ per cent. added for collecting fees; and _____ also waive the right of inquisition on any real estate that may be levied upon to collect this note, and do hereby voluntarily condemn the same, and authorize the Prothonotary to enter upon the FI. FA. _____ said voluntary condemnation, and _____ further agree that said estate may be sold on a FI. FA., and _____ hereby waive and release all relief from any and all appraisement, stay or exemption laws of any State, now in force, or hereafter to be passed.

Witness,

_____ L. S.

_____ L. S.

U. S. Bond

I want your job and if you give it to me I intend using materials I have been using for thirty years; I intend to give you a job now, as I have in the past, that is entirely satisfactory. While these other contractors whom you have asked to estimate the job may be good men and give you an equally good job, they certainly have not shown the interest in your work that I have. I can have the job done in less than ten days.' She finally signed the contract.

Our only discussion of price occurred when she mentioned the fact that the other men might do the work for less money, to which I replied that I could buy material every bit as cheaply as any one, and my costs of doing business are as low as those of any one, also that she was familiar with the manner in which the mechanics that would do the job did their work. I had the boiler, radiators, pipe and fittings on the job that afternoon and started the work the following morning. At each visit I made while the job was in progress I talked a new kitchen sink, a gas range and closet seat to the customer, using the argument that with the heating job alone the house was increased substantially in value and that an investment in these further improvements would add that much more to its worth, at the same time affording multiplied comfort. I got that business.

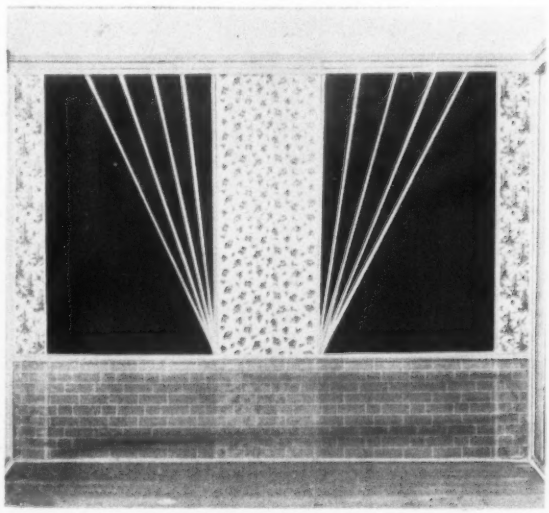
Time Payments and the Bank

"In this case, as in many others, I sold these jobs on the basis of deferred payment, a method of selling I have used since 1912 through my bank." Asked to explain his method of applying the deferred payment idea, Mr. Dempsey said: "Take a job that will amount to $1,800. The customer has $800 in cash which is paid, leaving a balance of $1,000, for which I accept a note for thirty days at 6 per cent with the understanding that, say $50, will be paid every month. At the end of the first month I notify the customer a few days ahead of time that it is coming due and send a new note for $950, which is signed and returned to me with a check for $55, covering the amount due and the monthly interest. The note is secured by a judgment against the property where the work is done, which is recorded at the tax office. This means the property can not be sold or mortgaged until the obligation is met. The whole procedure requires that the customer sign but two papers, the note and the judgment order, and, if necessary, I give the customer a letter indicating that the judgment order is but a part of the note. During the past two years 75 per cent of my business has been done in this manner. The cost of clerical work is figured in the original estimate."

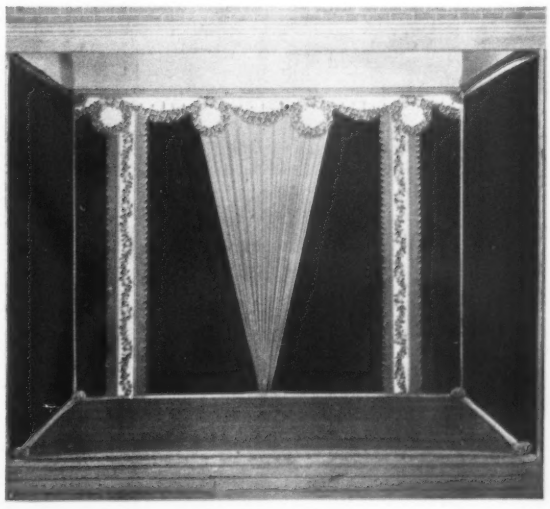
In the matter of using his bank, Mr. Dempsey said, "Here is where proper business relations with my bank come in; I can take a note of this kind to the bank immediately and get the full amount of its face value just on my reputation. The bank then notifies the giver of the note about a week ahead of the time it is due, in addition to my notification, and payments are made through my office. One other important feature surrounding this method of arranging payment lies in knowing all about the property of the customer with whom I am dealing. I investigate each one that I do not know. We in Philadelphia have a book that is published annually, listing the names of each property owner, assessment figures, etc. If the job is of any size, I check the facts in this book with the assessment office. Through this method of payment over a period of eighteen years I have never lost any money and have never had to go to court with a customer; consequently I have found it a most satisfactory way of doing business."

Christmas Window Suggestions

"RETAIL sales usually reach the peak during the two or three weeks immediately preceding Christmas," says an authority on retailing. "At this time people are in a spending mood, and no matter how much they are tempted to scrimp and scrape with their pennies during the rest of the year, there is a free and easy spirit at Christmas time that opens wide the purse strings. Cut prices and special sales are not required to induce a large volume of business, because the people are always on the lookout for something to buy—gifts that will please the recipients. It is the merchandise, not



Window No. 1



Window No. 2

so much the price, that clinches the sale in December.

"At no other season of the year is so much window shopping done. Notice the crowds in any large retail center at Christmas time. See how they drift from window to window, looking here and there for some display that will suggest gifts. During the 1930 buying season, millions of dollars' worth of sales will begin in the display windows and to the retailer who has an appropriately decorated display background, combined with attractively presented merchandise, will come the greatest profit on his investment.

"At Christmas time, it is a good plan to change the display windows quite frequently. It is not unusual for prospects to pass a retailer's store a dozen or more times during the weeks of the buying season just preceding Christmas. A little extra effort now pays well.

Here are two excellent backgrounds that are inexpensive to install:

Window No. 1

Material Required: 1 Fold No. X975 Decorated Crepe; 1 Fold No. 916 Decorated Crepe; 2 Folds No. 44 Grass Green; 1 Fold No. 84 Flame; 1 No. X9 Crepe Paper Border.

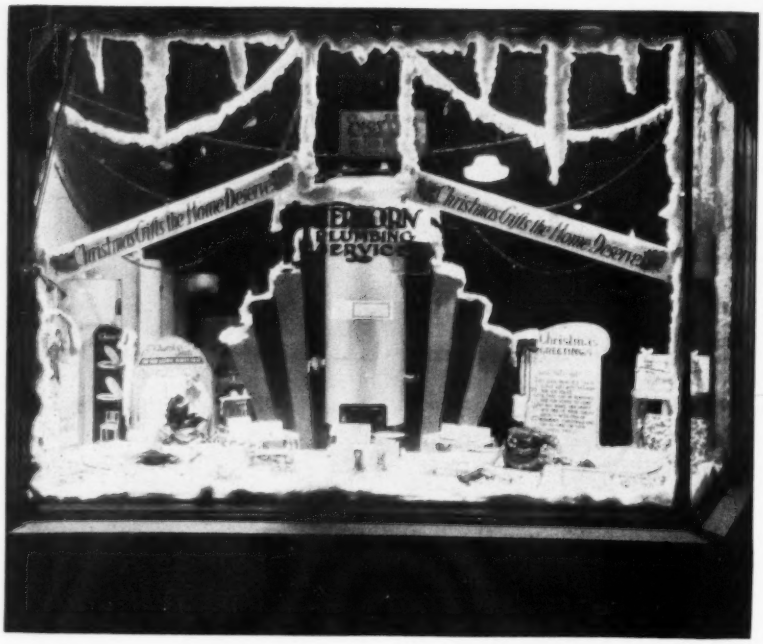
Instructions for Installation: Step 1—Drop a center panel of No. X975 Decorated Crepe and edge it with tubes of No. 44 Grass Green. Step 2—On the extreme ends of the background extend panels of No. X9 Crepe Paper Border. Run a tube of No. 44 Grass Green along the inside edge. Step 3—At the base of the background, place a panel of No. 916 Brick design crepe paper. Step 4—Tack a series of No. 84 Flame tubes on either side of the center panel, as shown in the illustration. Run a tube of No. 44 Grass Green along the upper edge of the brick design crepe and outline the entire background with tubes of No. 84 Flame. Step 5—Cover the base with No. 44 Grass Green and outline with tubes of No. 84 Flame.

Window No. 2

Material Required: 1 Fold No. X986 Decorated Crepe; 3 Folds No. 44 Grass Green; 3 Folds No. 84 Flame.

Instructions for Installation: Step 1—In the center of the background install a 10-inch drape of No. 44 Grass Green. Step 2—On either side of the center drape place a 5-inch drape of No. 84 Flame crepe paper. Step 3—About 12 inches from the extreme sides of the background tack a narrow panel cut from No. X986 Decorated Crepe. Step 4—Next to these and on either side, place narrow finger-edged strips of No. 44 Grass Green. Step 5—Extend the valance across the top of the background. This is cut from No. X986 Decorated Crepe. Step 6—Cover the base of the window with No. 44 Grass Green and then outline the entire window with tubes of No. 84 Flame, placing rosettes of the same color in the corners.

Material for these window backgrounds may be secured from your local dealer.



This window showed a number of Christmas gifts available in Los Angeles

Glendale, Calif., residents had Christmas gifts called to their attention by this window

Remodeling—
A Golden Opportunity

The Master Salesman describes vividly the opportunities for profitable business in old homes

WHEN the master plumber turned merchant, and began selling quality material, quality labor, and then turned to washing machines, iceless refrigeration, dish washers and other household commodities, he changed his attitude. He became a merchant and salesman whose reputation depends on the quality of merchandise he offers to the consumer; consequently, he began of necessity, devoting more time to explaining the money value of the material and merchandise he offered than to figures and cost comparisons.

That is where the revival of renovated plumbing is playing an important part. Master plumbers seeking this sort of business are studying merchandising and salesmanship because they are going into a field where the sale must be developed in the mind of the customer through the prompting of the contractor. The contractor has learned that costs cannot be discussed without disaster, until after the desire to seriously consider the proposition has been thoroughly seated in the mind of the prospect.

Our editor has stated in a previous article, "Treat every customer on your books as a prospect." What he meant was—every customer on your books offers you an opportunity to develop plus business out of the most inconsequential job you are called upon to do. He was emphasizing the established sales principle that refers to getting an order started, with anything, regardless of how small, and using it as a leader for something of greater value. He indicated that, with a customer, no introductions are needed; the customer sent for you and is acquainted with you. He or she is in a mood to spend money on repairs. The customer who wants a faucet repacked may be a prospect for a new sink or a combination dishwasher. That is what is behind "every customer on the books a prospect."

Selling Confidence

There is another side to that order for repacking a faucet. Why not sell the customer the idea of saving money? Every home has at least ten or twelve bibbs in the various fixtures. Suppose they knew that packing one bibb would cost around $2.50 or $2.75 and overhauling all of them would only average 35c or 40c each? Make a flat rate of $4.50 to renew the packing in all of them. It could be done in less than two hours' time. Would that pay? Would it pay the customer? Besides, it creates an opportunity to see every bibb instead of only one. There might be a couple of pairs that need replacing.

This angle of using the merchandising side of plumbing is where confidence is built up in the customer's mind. The more or less imaginary evil in a "plumber's bill" is usually traceable to the very small job where there is little or no material and high labor charge. Selling the customer the idea of making a complete job of repacking all faucets for the price he would pay for two at separate intervals, is merchandising of the sort that wins confidence. If there is a new fixture needed he is more interested, favorably so, if the contractor has done something for him that saves him unnecessary expense. The small job offers the opportunity to work up to bigger sales by such methods; but when the routine is to send a mechanic out on a special trip, or even on a group of such jobs, and the contractor hasn't been interested enough to go first and look the job over, there is a reason for a kick started in the customer's mind already.

Going to see him, examining the faucet, all attention to the small job as much as to the big one, makes the customer feel that he is getting service. He becomes receptive of diplomatically proffered suggestions.

If the contractor makes it a rule to give his personal supervision to every job that comes in, regardless of how small, the inspection of that little matter gives him an entree. Just at this time of the year the heating plants all need their annual inspection and overhauling. Many systems have never been covered with asbestos; a few figures to illustrate the heat units lost because uncovered boilers and pipe lines allow their escape, will quickly prove in dollars how much economy would result in fuel consumption. Repacking valves naturally follows; showing some illustrated literature on radiator covers for the living room, sun room, and dining room, would make a perfect picture of the "home beautiful."

Modern Heating Opportunities

Again, the rebuilt heating system is part of the remodeling plan. Circularize your customers now, when they may be having trouble getting efficient heat. Offer the inspection and specification of the trouble and remedy. Remember to talk about it when called in to pack a faucet. Get on the job then and there. Is the garage heated? If not, why not? How many times have those who store their cars in unheated garages, neglected to keep a proper amount of

alcohol in the radiator. Again, a little preparedness with figures will illustrate the small added cost in fuel to carry heat protection for the car.

Electrically controlled heat. There are automatic operating regulators of different types and prices, one to fit every home and pocketbook. How many housewives are obliged to "tend fire" during the day? It is laborious, fatiguing; certainly no work for a woman. A regulator in the home would eliminate the fatigue and save fuel. Think of how many customers on your list are prospects for a regulator. Just a few figures to prove the soundness of the investment and a colorful story of that "awful running down to the basement every so often to close or open the drafts"—all done away with and fuel economized besides.

A New Idea

A contractor just told me the other day of plans he had already put into motion for the purpose of developing a new sort of business. He said, "Why, all you've got to do is walk or drive through any residential section and get a 'slant' on how many open porches there are and how many homes have no sun room. Look at the lawns in the summer time; well kept, full of blooming plants. They could have the pleasure of those greens all winter long, if they'd just invested a few dollars. I've arranged with a builder to handle the carpenter work, painting, glazing, plastering and so forth, and, of course, I'll take care of the heating. In the past, I have always sent a letter to my customers in August reminding them of the coming time for firing up the boiler. They generally respond when the first cold snap comes along, not before. I've got a different idea now. Along with that letter I send a postal card, addressed to me, telling me they will be home on the days I have promised to call. I used to leave it to them to send for me—now I tell them I am going to call and look their plant over, unless I hear from them to the contrary.

"If they don't have a closed porch or a sun room I'm all set to tell them all about having one built and how much comfort it will give. Within the last three weeks, two of my customers have contracted to convert their porch into a winter sun room and I didn't have to work very hard to sell them. They had been thinking of that very plan for some time and were almost waiting for someone to come along and wake 'em up to go ahead with it. Of course, by following up my letters to my regular customers, I'm getting a fair amount of repairing and other work beside heating, but I've set my mind on concentrating on those porches. They look good to me."

Now there is a new one. Not entirely, I'll admit. But using "open porches" for creating a heating job certainly hasn't been overworked and if every master plumber in every residential section in the country began using "open porches" as prospects, they couldn't get all the jobs that are possible to land between now and spring.

Even though this contractor's plan doesn't get him his heating job, it must get him business because it is creating contacts for him. When he calls on a prospect he has something definite to discuss and most assuredly something every home owner must be interested in. That is the foundation to business building; finding that which will arouse genuine interest. The actual acceptance of the idea itself, may not materialize at once, even ever, but talking about it makes a "visit" out of a business call that begets confidence. Something else turns up, maybe not so great in cost, but something necessary—the prospect, glowing with interest in the original idea temporarily shelved, goes into the smaller project with real determination.

One very attractive feature in his letter to his customers is that he leaves no doubt in the mind of the reader that he is going to call. Even though they might think they will not be interested in anything he has to say, nevertheless, he has started them thinking—about him, and that is the big point. They expect him; they may be all set and ready with a negative attitude, but at any rate they are waiting for him. When he finally sees them, a different approach, a different topic to discuss in a different manner, makes it difficult to remain negative.

Remodeling—A Golden Opportunity

There is a golden opportunity in all these suggestions, for the contractor who will go in and work to win. Remodeling and alterations, modernizing, is in the very atmosphere today. Even furniture and department stores are advocating replacing old with new; actually making a big feature of it in their advertising. The big end of success for master plumbers today is merchandising their services, materials and affiliated commodities. Injecting merchandising into the business becomes a sort of a surprise attack. The prospect doesn't expect it, and in consequence is disarmed.

When we checked into the attitude of customers toward this contractor who is using the "open porch" angle we found he had not had a complaint from one customer since starting his plan of personal calls. They were satisfied with his work because he had personally supervised it; his charges were agreeable because he had prepared them in advance with a carefully explained idea of what he intended to do. His repair bills and work were received with the same favor. In fact, in one instance where a clogged waste line developed into digging up the street and consequently increased his charges very much, he told of the customer actually thanking him for being interested enough to call personally and know for himself what was necessary so that it could be fully explained.

All these phases of the business can be operated on a merchandising plan. If there is nothing else accomplished, the customer is sold confidence in the ability and integrity of the contractor and his organization; the possession of that good will cannot be measured in dollars value. Time spent calling on a customer seeking a small service creates this good will. It opens the way to bigger jobs. Capitalize on every sort of contact with prospective customers. Make every job, great and small, the gateway to a tour of observation, taking in everything possible, that can be gleaned from those preliminary inspections.

Make a careful study of a selection of materials, household commodities in plumbing and heating. Assemble a collection of literature illustrating the best and the next best to be had. Then, with this information in portfolio or brief case, you are equipped for every opportunity that presents itself. You will find lots of them.

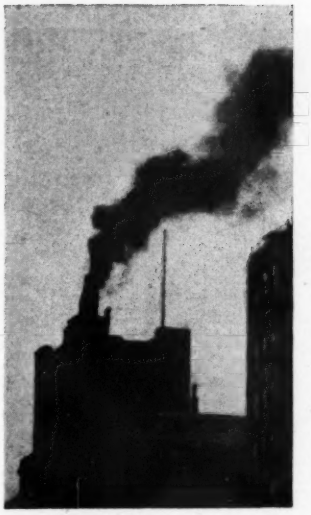


Fig. 1—The mechanical firing of heating plants is being required to eliminate smoke nuisances such as that shown

A Stoker Installation That Solved Smoke Problem

Electrical Connections Are Interesting Feature of Double Installation Permitting Wide Variety of Operation

ON JANUARY 1, of this year, a new ruling on smoke prevention went into effect in Chicago which provides that the department of smoke inspection and abatement will not approve or issue permits for the installation of low pressure heating boilers or hot water heaters of the surface burning type for burning coal, in sizes larger than those having a capacity to supply steam to 1200 square feet of direct steam radiation or its equivalent or to supply hot water to 2000 square feet of hot water radiation. The surface burning type of coal burning boiler is defined as a hand fired boiler in which the fresh fuel is thrown directly on the hot fuel bed.

Interpreted, the above means that coal boilers larger than the size mentioned are required to be fired by some mechanical means, namely by stokers. It applies to new installations and boilers which are reconstructed. While it does not affect existing installations, until they are changed or rebuilt, smoking plants are not permitted and active measures are taken against violators of the general smoke abatement ordinance.

The Mather tower, located on Wacker Drive in Chicago, came under the observation of the smoke department as a result of the last mentioned provisions—existing installations are not allowed to smoke. The building was designed to be outstanding as the photograph (Fig. 2) indicates, and adds notably to Chicago's skyline. As such, its actual operation became inconsistent with its purpose when the hand firing of the boilers at times caused clouds of smoke to be emitted from the smokestack rising out of the top of the tower. The solution to the problem, as the smoke ordinance indicates, lay in changing from hand fired operation to the installation of stokers and mechanical firing.

Referring to Fig. 3, two stokers were installed, although three boilers were provided in the complete heating system. Those making the actual installation of stokers went on the job after the building had been completed and was in service. In effect, it might be said that their work was remodeling in nature. One item which they recognized was that the building is on the river front and the floor of the boiler room is below the level of the river. Consequently, it is subjected to a considerable hydrostatic head and the floor slabs were designed accordingly. They are 6 ft. thick. The boilers were sunk into pits when the structure was

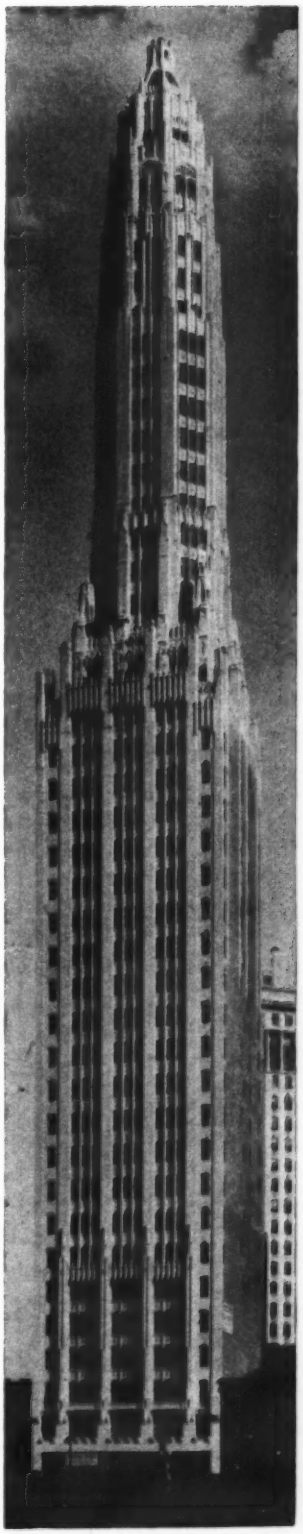


Fig. 2—The Mather Tower, in which the stokers described in this article were installed, is outstanding in Chicago's skyline

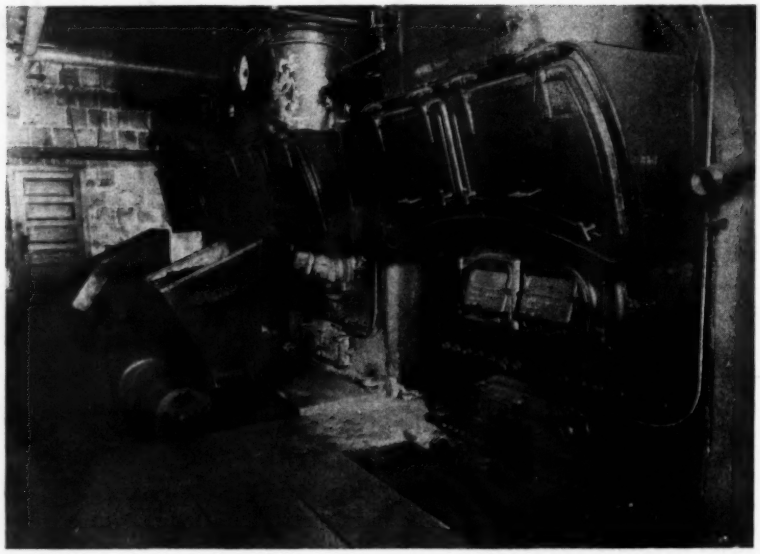


Fig. 3—These two stokers were installed after the building was completed and in operation

built. This is shown in Fig. 3. In making the installation, it then was only necessary to remove the iron grating in front of the boilers, and the stokers were set on the original pit floor. To obtain the necessary length to accommodate the size of equipment which the job called for, the pit was made 6 in. longer. This can be seen in the photograph by prolonging the line of the left hand edge of the steel pit cover for the first boiler to cross the second and third boiler pits. The original pits were, and still are, 17½ in. deep.

Excessive Natural Draft

One feature of the installation which required careful consideration was the excessive amount of draft. The chimney runs the full height of the building, its top coming out of the top of the tower. In all, it is some 546½ ft. in height. It has an interior diameter of but 37 in. to carry 420 boiler horse power. However, the draft is so intense that it could have been reduced in diameter still further. Baffling the chimney and close regulation of the damper has taken care of the problem. The stokers operate on .25 in. of draft and when they are not running, the draft is about .9 in.

Interesting Electrical Connections

Evidently special attention was given to the electrical connections. This may be seen from the wiring diagram shown in Fig. 4. With the ten hand switches, any combination of stoker, pressure switch and starting switch desired may be operated. As an example, stoker No. 1 may be operated by its pressure switch and starting switch. The same applies to stoker No. 2. On the other hand, stoker No. 1 may be operated by pressure switch No. 2 and starting switch No. 2, the same being possible for stoker No. 2, with No. 1 pressure and starting switches. Or, stoker No. 1 may be operated by No. 2 pressure switch and its own, No. 1, starting switch, with a similar combination possible for stoker No. 2. Finally, No. 1 stoker may be operated by its own, No. 1 pressure switch and No. 2 starting switch. These combinations are tabulated in Table 1. When operating both stokers at the same time with their respective starting and pressure switches, only the S and U switches are open, all other switches being closed. Accordingly, for the fundamental electrical hook-up, if the two electrical circuits were to be operated independently, the cross connections through switches S and U would be eliminated and for purposes of regular operation the several other hand switches either would not be in the circuits or they would be kept closed.

In the matter of operating the pressure switch, several combinations and possibilities were provided. The No. 1 pressure switch is controlled by valves *A* and *B*, while valves *C* and *D* control the No. 2 pressure switch. Considering the first mentioned switch, it may be actuated by the steam pressure from Boiler No. 1, taken off of the water column by opening valve *A* and closing valve *B*, or it may be controlled by the steam pressure from the main by opening valve B and closing valve *A*. If only one boiler is operating, say boiler No. 1, valve *C* naturally would be closed. It

(Continued on Page 143)

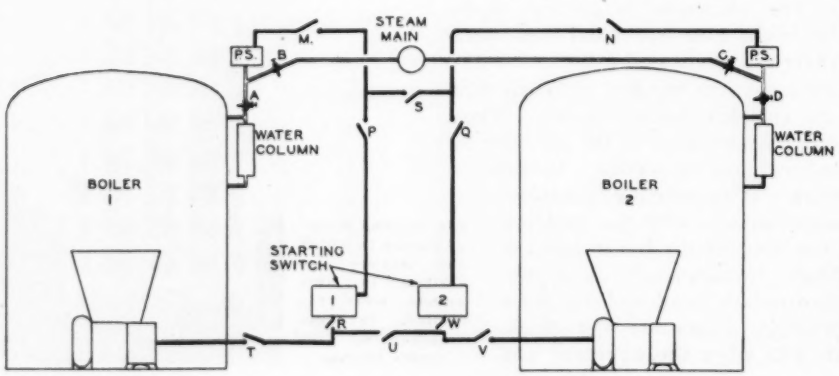


Fig. 4—Diagram of electrical connections for the two stokers. The large number of switches installed gives a wide variety of operation

Certify It!

This is a study of the idea of certified plumbing as prepared by Mr. Merryman for detailed presentation to the board of directors of the National Association of Master Plumbers

By
T. W.
MERRYMAN

GREAT economic trends are sweeping throughout all types of business today, calling for new viewpoints, new policies, new methods and new protections. The stress and strain of these new trends is disastrously affecting those men of rutted minds who attempt to combat these new considerations with traditional methods developed to fit the old order of things. Desires have outstripped the ability to buy, resulting in a long train of economic consequences in which all of the various types of industries find themselves in competition with each other, for the consumer's dollar. Too many tradesmen have entered certain fields with the result that there is not sufficient volume to justify a profit to all, and this has resulted in another long train of consequences which individual tradesmen, no matter how clearly they recognize their predicament, seem powerless to control. Manufacturers in almost all industries, have added to their plant facilities from time to time until now they are geared to produce almost twice what they can find a market for.

The desire to gain a better return by lowering the carrying charges on this idle investment, has resulted in overproduction and price decline, with consequent narrower margins to retailers. This has deposited another set of economic problems on the doorstep of the individual tradesman. Markets are commercially saturated, credit is over-extended, buying power has become more erratic because of the uncertainty of conditions. A new set of economic fundamentals, totally different from any that American business has faced in former years, require a change in business policies and the necessity can not be delayed. Nor are these problems temporary in nature.

The cycle has turned. We face an entirely new day in merchandising and management. Past experience is often a stumbling block to an understanding of the future. In all of this turmoil of changing economic trends, there is no industry that faces greater or more pressing problems than the plumbing industry.

Problems of the Plumbing Industry

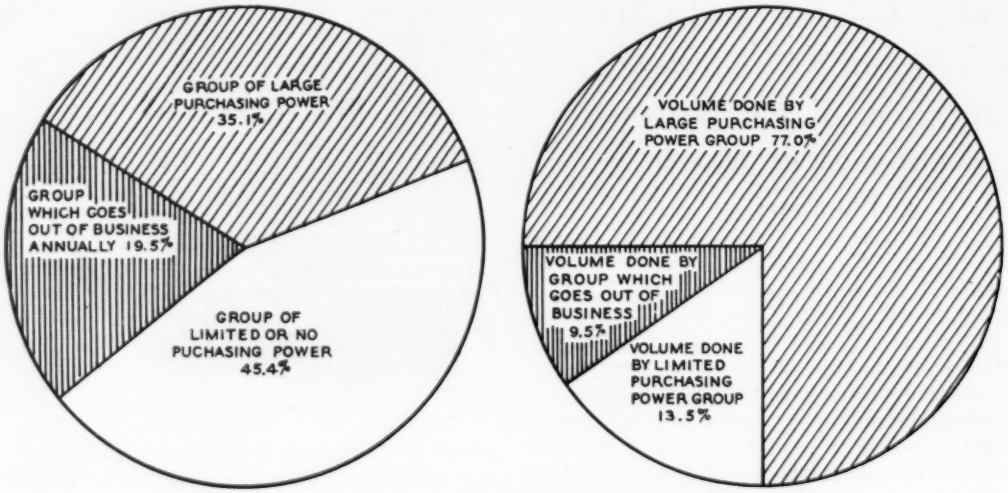
Everyone within the plumbing industry realizes that something has happened during the past few years to make it more difficult to continue in business. A recent survey shows that 45.4 per cent of the plumbers hardly make sufficient profit to stay in business, and that 19.5 per cent have to give up the ghost each year. The industry is corroded with price-warfare, substitution, and unreasonable competition. Yet this should not be, for no tradesman today renders a greater service, nor one any more important, than the plumber. He is intimately connected with the providing of facilities for many of our primary needs in cooking and sanitation. He adds more to our comfort, to the enjoyment of living, to the health and sanitation of the commonwealth than almost any other tradesman. He is connected with the most pronounced of all abstract longings—the love of man for his home. It is well understood that "He who serves best, profits most," and no field of endeavor should offer so great an opportunity for profit as plumbing, because of the magnitude of the service which it renders to the public. (Continued on next page)

Too Many Plumbing Shops

One of the basic reasons for the present predicament of the plumbing contractor comes from the over-anxiety of wholesalers and manufacturers for numerous outlets; in fact, an over-extension of outlets in all branches of the plumbing industry. In recent years the number of manufacturers, wholesalers and master plumbers has increased by leaps and bounds; anxious for volume, many wholesalers have encouraged new contractors to start in business on a shoestring, resulting in many one-man shops, inadequately financed from the start.

In one large city, according to the research department of DOMESTIC ENGINEERING, the average assets of such new beginners were only $200, an equity in a small truck, and an equity in a new home, held jointly in the wife's name. In another large city, there are today 300 master plumbers and 275 journeymen, more bosses than mechanics. With insufficient volume to support the prosperity of all of these, there has been brewed a vitriolic turmoil that affects the individual business standing of all. Since it is known that 35 per cent of the master plumbers do 77 per cent of the business, and since the entrance of poorly financed plumbers is being encouraged by wholesalers and manufacturers, it must be axiomatic that 65 per cent of the plumbers who can split between them only 23 per cent of the business, are up against the daily necessity of finding methods of keeping the sheriff away a little longer. They, therefore, are bound to resort to any business practice in their bitter attempt to survive.

The result of the over-extension of outlets has fostered the tendency of business practices which is affecting all in the industry. The mass which find it hard to survive, must either give up or resort to unfair, unethical practices. Far from being interested in those policies that will permit them to permanently survive, they are interested only in living for today, and letting tomorrow take care of itself. They, therefore, turn to anything that will give them immediate revenue, no matter how much it may penalize them or the industry in the future. They enter into savage and unreasonable competition and bid below their cost in their effort to survive. Because plumbing work is to a large extent concealed after installation in a building and the public has neither the training to see it properly installed nor the ability to tell whether it is of lasting quality or not, they become interested in getting the most for the least money. Therefore, the established plumbing contractor is forced to meet the standards of the unscrupulous bidder. He is, thus, thrown into competition with struggling traders, who willingly cut prices, and resort to every conceivable practice of chicanery. Thus, the tail wags the dog.


GROUP OF LARGE PURCHASING POWER 35.1%
GROUP WHICH GOES OUT OF BUSINESS ANNUALLY 19.5%
GROUP OF LIMITED OR NO PUCHASING POWER 45.4%
VOLUME DONE BY LARGE PURCHASING POWER GROUP 77.0%
VOLUME DONE BY GROUP WHICH GOES OUT OF BUSINESS 9.5%
VOLUME DONE BY LIMITED PURCHASING POWER GROUP 13.5%

These two charts show how the total master plumbers and heating contractors rate when examined as to their purchasing power and business stability

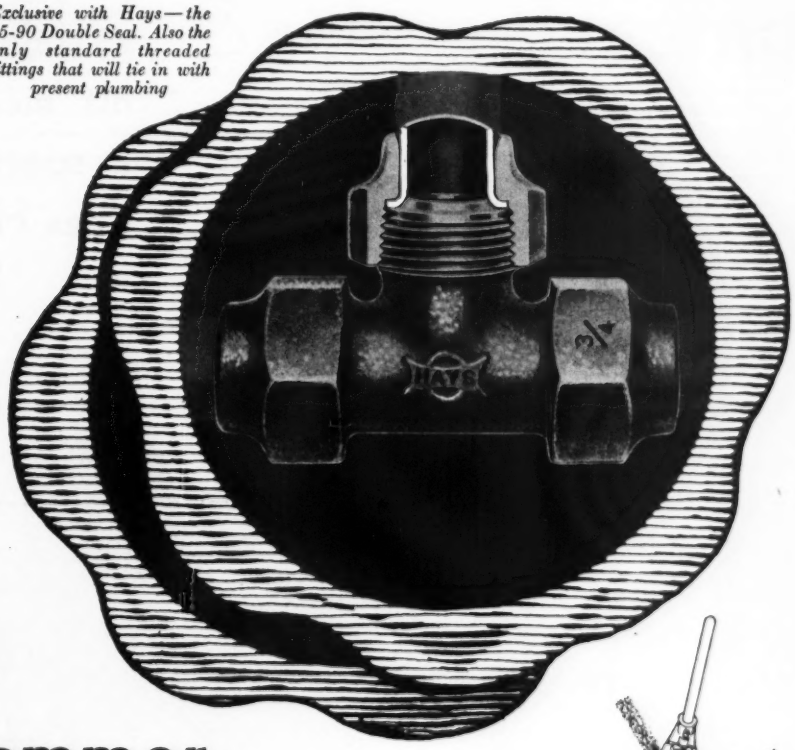
Loss of Public Favor

Who will deny that public confidence in the plumber has been shattered, and that, to an entirely unjust degree, he has been the butt of public jokes? Who will deny that plumbing, as a business, rates low in profit opportunity? Outside of the desire to profit, every man desires to feel pride in his profession and this pleasure is today largely withheld from the sincere, earnest, ambitious, enterprising master plumbers; not because of any misconduct of their own, but because they have been given a nefarious identity through their identification with price-cutters. It is a known fact that desires in the past ten years have far outstripped the ability to buy. Advertising is educating people to new planes of living—through this instrument unfelt needs spring into elective desire. The consumer elects to purchase some products immediately, other products eventually, and other products low in elective desire, the consumer seldom buys, even though there exists a greater need for such ownership.

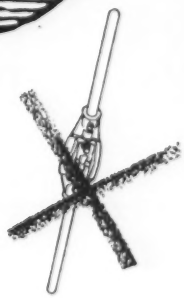
Thus, some tradesmen win and some lose in proportion to the strategy, the ingenuity, the cleverness which they employ in educating the public to an elective preference for their products.

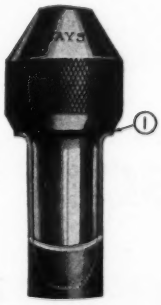
(To Be Continued)

Exclusive with Hays—the 45-90 Double Seal. Also the only standard threaded fittings that will tie in with present plumbing

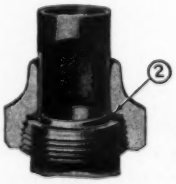


PROFITS in your Hammer . . . instead of your Threader

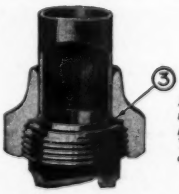




The flanging tool in position in the pipe, after the double flange is made



The connection before final tightening with wrench—note slight space between pipe and fitting



Note the strength of the tightened joint. The 45-degree seat seals pipe tight. The 90-degree seat locks and protects it

Insert the Hays flanging tool in the end of your length of copper piping—tap it a few times with a hammer, and you have done all that is necessary to prepare your pipe for a joint that will be permanently leak-proof and trouble-proof. No laborious threading process.

And you've a connection that's *twice as tight*—because it provides two angles of contact. A 45-degree angle to seize the pipe in an unshakeable grip. A 90-degree flange to lock the pipe permanently in position—protecting the joint against pulls, strains and vibrations.

You give your customers a permanent trouble-free system at little if any greater cost, and you earn a good profit with less effort.

Let us send you complete information about this new plumbing method and the Hays Double Seal Connection. Write to—

HAYS MANUFACTURING CO., ERIE, PA.

HAYS DOUBLE SEAL CONNECTION

A salesman takes his medicine like a sport—and so does Hank a little later

On the job with

Dolan & Olson

FUNNY how things break sometimes. A brand new salesman blew into the store the other day. Introduced himself. Then flashed a couple of articles that he dug out of his pockets in a hurry. Asked for a chance to bring in his sample case. It was granted, so out he ducked and a few minutes later came staggering back into the store with the trunk that was the granddad of all of the trunks in the world.

Opened it up and began his story. Just happened that Me and Hank were pretty well loaded with the kinds of things that this chap had to sell, so he switched his talk to ways and means of billing jobs, and he wasn't selling any more of that than he was of the goods from his trunk.

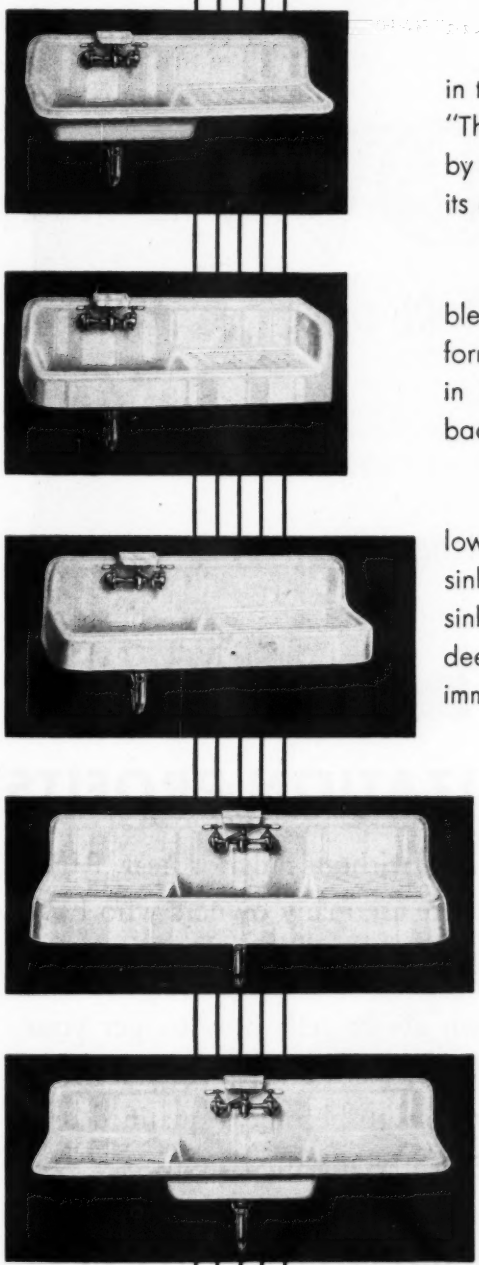
Me and Hank took it all in. Course we disagreed with him on various and sundry points, but he kept right on boring in. We took time out every once in a while to answer the phone and then came the big break. The door opened and a lady came into the office.

After listening to what the salesman was saying about how to bill jobs, she asked for the proprietor, and Hank, thinking that she was selling advertising space in a cook book or collecting money with which to buy sun shades for the Eskimos, nodded at me and also advised her that I was the boss of the place.

Right away she told me who she was and where she lived and said that the hot water tank had developed a leak and she wanted to know the cost of a new one. Not knowing the size, I quoted her on the usual "30," also on the "40" and the "52," and in the extra heavy weight.

She wanted to know about what it would cost to make the change and knowing what hundreds of similar changes had cost in the past I felt that I was on pretty firm ground in quoting her on the job complete, even without seeing that particular job.

The High Sink Back is Passing



The most important development of the kitchen sink in the past decade was the creation by "Standard" of the "Three 8's" sink. Only a trifle over two years old, this sink, by its immediate and extensive public acceptance, has proven its design and its popularity.

No one feature of the sink has been more responsible for its appeal than the 8 inch low back. It has transformed kitchens, it has at last permitted the sink to be placed in its logical position — under a low window. The high-backed sink is passing.

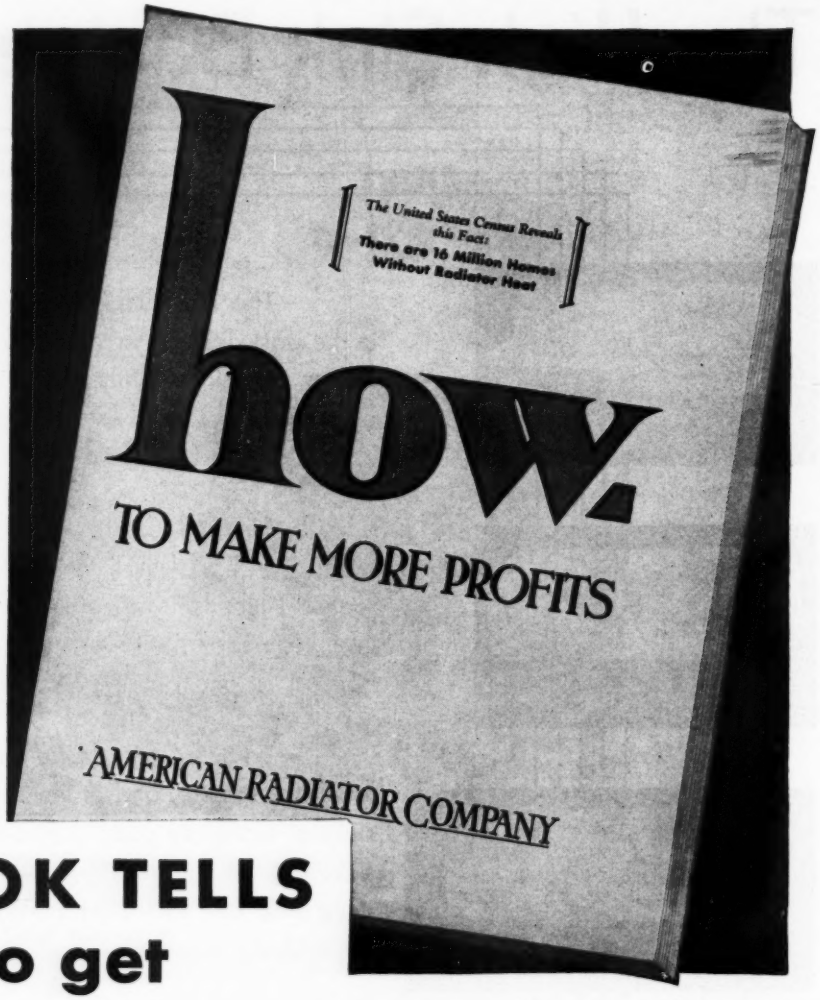
To meet the desire of owners everywhere for the low-back feature, and at the same time meet their need for sinks at moderate costs, the 12-inch high back "Standard" sinks are being redesigned to have 6 inch apron, 6 inch deep sink, and 8 INCH LOW BACK. Many patterns are immediately available.

The illustrations show how this new low back adds a greater distinction and a new massive beauty to these representative designs of popular "Standard" sinks.

Standard Sanitary Mfg. Co. Pittsburgh

"Standard" PLUMBING FIXTURES

DIVISION OF
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION


The United States Census Reveals this Fact:
There are 16 Million Homes Without Radiator Heat
how.
TO MAKE MORE PROFITS
AMERICAN RADIATOR COMPANY

THIS BOOK TELLS how to get YOUR SHARE OF MODERNIZATION PROFITS

Every Thursday night we are broadcasting the story of modernization to every part of the country—telling the public how easy it is to have modern radiator warmth for just a little down and a little each month.

There are 16 million homes without radiator heat. Right in your neighborhood there are many owners who have been planning to modernize their homes by installing it.

The 42-page book shown above tells how to get your share of this profitable business. We will be glad to send you a copy and tell you how to become a qualified user of our Time Payment Plan if you will write us.

AMERICAN RADIATOR COMPANY

DIVISION OF

AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

40 WEST 40th STREET, NEW YORK

The price was "jake" but she was just as fair to deal with as she was to look at as she proved by saying that "the price is satisfactory, but, for your own protection, I wish that you would stop at the house and look at the tank and the connections and if everything is then satisfactory, I want you to make the change, using the extra heavy tank of the same size as the one now in the basement."

I assured her that the proposition was more than fair and that I would go over within the hour.

The Salesman Takes His Medicine

And then with everything set, with Hank and the salesman both listening, she furnished the match that started the explosion by saying: "This tank developed a leak at about 10 o'clock last evening. The maid phoned for our regular plumber. He sent one of his men. This man came to the house in a taxi from the Lord knows where. The taxi waited while the man plugged the hole in the tank. Then he rode away in the taxi. Not being home I didn't know this until later in the evening, but this man has done work for me for some time and I have felt that he was imposing upon me."

And right here she faced the salesman whose spiel about billing jobs she had heard when she came in.

"For one thing I have never liked the invoices that he sent us from time to time. He lists every little thing, but with great big names, and prices in keeping with the seeming importance of the articles. He lists candles, screws, street car fares, cartage of tools and material, liability insurance, hours of labor, etc., etc., etc., almost without end. Then adds 25 and 10 per cent to the total for his overhead and profit. Now it may be all right, but I never know whether or not we have received all of those things, and just getting those yard long bills gives me the shivers. I have been intending to sever relations for a long, long time and would have done so sooner, but never had an opportunity just exactly like this one. When I heard of that taxi last evening, I just hit the ceiling, to use the language now being spoken by my own children, and I began to look around. Called up several friends and happened on two of them that recommended you and both of them said 'They have service cars.' When I was coming in here a few minutes ago I noticed one of them just leaving and they look like the kind of cars that I would be proud to have stand in front of my house."

She closed by saying that she would be home when I got there and stepped out of the store, with me right there at the door holding it open for her and assuring her that I would be at her home within the hour as promised.

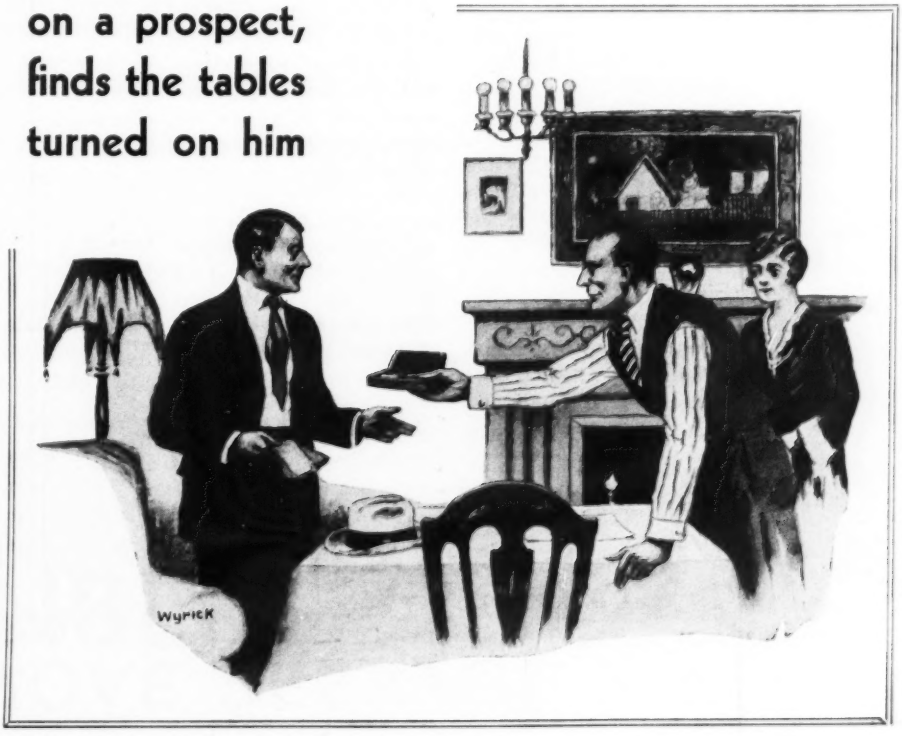
Hank was grinning. The Salesman was packing up his trunk. He asked permission to call again and then added "And when I come in again it will be to try and sell goods, not to deliver a talk on billing service jobs."

And when a guy can take a licking standing up like that he deserves an order and he'll get one when he comes in again, if we have to buy an overstock just to give him a break.

Well, to complete the story, I jumped into the flivver, rolled around to this lady's house, found that

(Continued on Page 162)

Hank, calling on a prospect, finds the tables turned on him



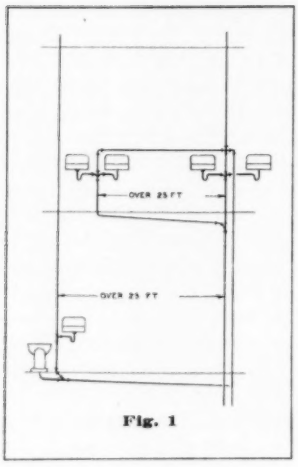


Fig. 1

Correct plumbing practice which was replaced by the more expensive hook-up shown in Fig. 2, and later again changed to the still more expensive connections of Fig. 3

Official Errors in Plumbing Requirements

By S. M. BARR

BECAUSE of the position the plumbing inspector occupies, he is generally looked up to, not only by the community but by the plumbing trade, as a qualified judge of correct plumbing practice. While the plumbing inspector is no more infallible than the rest of us, he generally can be relied upon for good judgment, based on correct understanding of plumbing practice.

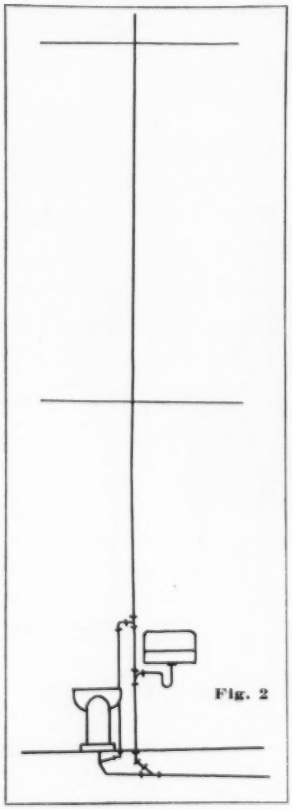


Fig. 2

In the instance we are going to relate, however, he misjudged.

It seems that the plumbing code of one of our important southern cities has a requirement which is common to many cities, and which is as follows:—"Any vertical branch rising 10 ft., or any lateral branch running over 25 ft. from the main soil line in the building shall continue full size through the roof, or be returned full size to the main vent line."

The plumbing department of this city decided to have a pilot drawing made, and in the original layout, the above mentioned requirement was illustrated in the manner shown in Fig. 1, which as far as we can see, was a correct representation. The layout was returned for correction, with the change made on the water closet and lavatory that is shown in Fig. 2.

According to our opinion, the separate water closet vent alongside the lavatory stack was an absolute waste of good money. When the drawing was sent back for final o.k., however, the change shown in Fig. 2 was thrown out, and the final draft was required to be made as seen in Fig. 3. To our way of thinking,

(Continued on Page 171)

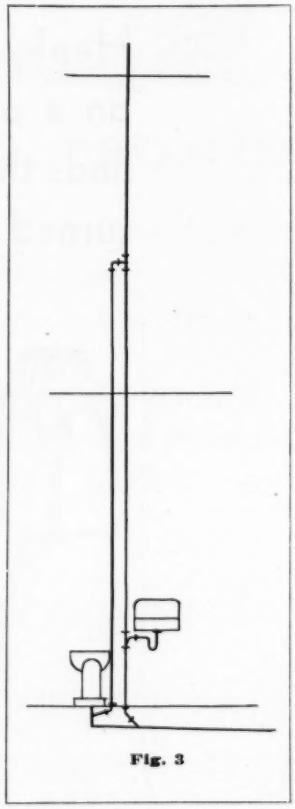


Fig. 3

TRADE PENBERTHY PRODUCTS MARK

A SYMBOL

ITS MEANING TO THE PLUMBING CONTRACTOR

When a plumbing contractor installs an electric sump pump or hydraulic cellar drainer bearing the trade mark reproduced above, it means that—

—he will earn a fair profit

—his profit will not be dissipated in servicing

—installation is simple and can be quickly made

—reliability and operating economy have been proved

—the pump is immune to corrosion—of copper and bronze throughout

—a financially responsible manufacturer stands squarely behind him in assuring satisfaction to his customer

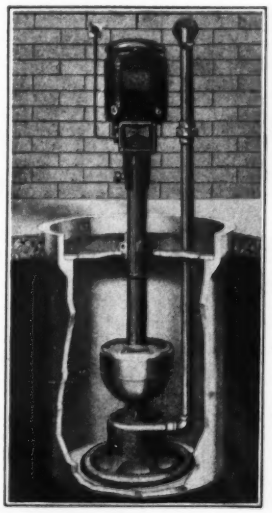
—the manufacturer has the experience, resources and research facilities to build to a purpose, not to a price

—the manufacturer is actively creating the demand by using large space in leading architectural and building publications.

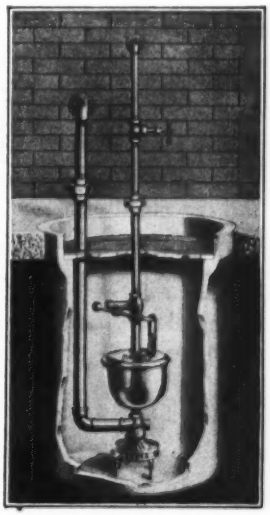
Carried in stock by leading jobbers throughout the country

PENBERTHY INJECTOR COMPANY

Established in 1886 — DETROIT — Canadian Plant Windsor, Ont.



Penberthy Automatic Electric Sump Pump



Penberthy Automatic Cellar Drainer (Water Operated)

COPPER AND BRONZE THROUGHOUT

PENBERTHY PUMPS REMOVE SEEPAGE WATER

RETAIL ADVERTISING SERVICE

Christmas Merchandising

A Gift of Lasting Beauty!

If you're looking for a last-minute gift for the home—something that will be thoughtful, beautiful and lasting, we urge you to come in and see our displays. We can serve you promptly—and you will be agreeably surprised at the choice of gifts you will find here.

(In this space Your Name, etc.)

For one-column space

The copy on these two pages is for the use of readers of DOMESTIC ENGINEERING—with or without the illustrations, as they may choose.

If you are using any of this copy, send us samples so that we may keep in touch. Perhaps we'll be able to offer further assistance.

If
you
are now
wondering what
to give some member
of your family—we suggest
that you drop in on your way home
and look over the practical and beautiful
gifts we have assembled here in your own
neighborhood plumbing store—gifts that will outlast
many
less
prac-
tical

(In This Space Your Name, Address, etc.)

Dear Sir:

For last-minute gifts, may we suggest that you stop in here--at your own neighborhood plumbing store?

We predict a pleasant surprise for you. Here you will find gifts that will be thoughtful, original and beautiful in a lasting way.

Furthermore, they will be practical--and that is, we think, a quality most people will look for in the gifts they give this year.

Surely there can be no gift more fitting than one which will minister to convenience through a period of years. Though the thought of plumbing as a gift may seem a bit strange at first, a little consideration will serve to indicate that it meets at every point all that one desires in a gift--it is practical, convenient, lasting and beautiful.

We shall be glad to go over our display with you at any time that meets your convenience.

Very truly yours,
HARRY BROWN

A plumbing sales letter

RECOMMENDS PRACTICAL PLUMBING GIFTS

"I suppose that when I recommend plumbing gifts," says Harry Brown, local plumbing contractor, "many people will raise their eyebrows and wonder just what a plumbing store can have that would be in the gift class.

"You'd be surprised," he went on. "If it was something to talk about when chromium was put on automobile fittings, because it was easier to keep clean, it's surely something to talk about when chromium is used in plating things like faucets in the home so that the mere 'swipe' of a rag brings back all the first luster. Every housewife will like that.

"I hope a lot of people will give themselves a surprise by dropping in to see the gifts I have arrayed. I know that those who came in last year are going to return this. They know what a surprise is in store for them."

Hand this publicity item to your newspaper

Gift Copy

In the copy on these two pages we continue to stress the practical and beautiful qualities of modern plumbing and heating equipment. You can get your share of Christmas gift money by using this copy now.

A Gift of Gifts —convenient heat

IF there is a gift that will offer more to the family in the way of comfort, convenience and health than modern, controlled heat—that is the perfect gift.

But freedom from constant "firing," steady, comfortable temperature without constant adjustment, fuel economy and even heat all over the house—these, it seems to us, head the list.

We'd be glad to talk about it with you—as a gift to the family.

(In this space Your Name, etc.)

A one column ad

In
all the
world of
gifts that are
offered this year, surely
those that are practical will
have first call—and first among
these will be modern heating, con-
venient, comfortable, healthful, with the
minimum of attention needed. All this we can
of-
fer
you
here

(In this space Your Name, Address, etc.)

Dear Sir:

If, on Christmas morning, you presented to the family--more particularly, to the lady who directs its destinies--complete freedom from thralldom to the heating plant, can you think of a more fitting gift?

What a satisfaction to know that, day by day, a modern heating plant was functioning in your home, automatically keeping the temperature without great fluctuations, conserving fuel, and demanding a minimum of attention--perhaps none at all.

We can arrange it so that on Christmas morning you will have the evidence of your gift in the form of a contract.

Drop in and talk it over with us. The whole matter can be arranged to suit your convenience as to terms of payment, etc. We believe you'll find great satisfaction in making such a gift.

Very truly yours,
HARRY BROWN

A Christmas letter

▲

Of course you'll have a Christmas card of some kind in your window. Even if you have not used holly and other Christmas decorations, be sure that your window carries its good wishes to the passer-by. You can get a neatly lettered card at a very small cost.

▼

SAYS HEATING GIFTS MOST DESIRABLE

"Even though it's my business, I'm quite sure my judgment is right in saying that heating gifts may very well head the list," says Harry Brown, local heating contractor when interviewed about Christmas sales.

"We'll all agree to the thought that anything which reduces household drudgery belongs at the head of any gift list. That is my claim for the modern heating plant. It requires little or no attention—depending upon the degree to which it has been made automatic.

"The day will come when it will seem prehistoric to be burdened with an old-fashioned heating plant. It has come in many homes—and it will have come in many others before Christmas is past."

Give this publicity item to your local newspapers

for

PLUMBING AND HEATING

Specify

WALWORTH VALVES FITTINGS AND TOOLS

MALLEABLE FITTINGS

● Whether it's a line of valves or a carload of fittings that is needed Walworth is able to fill the order with dispatch. Five strategically located factories produce the complete Walworth line on a carefully controlled manufacturing schedule that permits the most thorough inspection and testing without interfering with mass production. ● Walworth malleable fittings are made for hard service. ● The threads are counter sunk, permitting easy entrance of the pipe and preventing damage in handling. ● Tests for alignment are made frequently during factory run by the use of perfect (ground) nipples, straight edges and plane tables.

WALWORTH

Walworth Company, General Sales Offices: 60 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa.; and Attalla, Ala.
Walworth Company Limited, 660 St. Catherine Street West, Montreal, P. Q.
Walworth International Co., 11 Broadway, New York, Foreign Representative
. . . Distributors in Principal Cities of the World . . .

California City Regulates Gas Installations

By R. M. STARBUCK, JR.

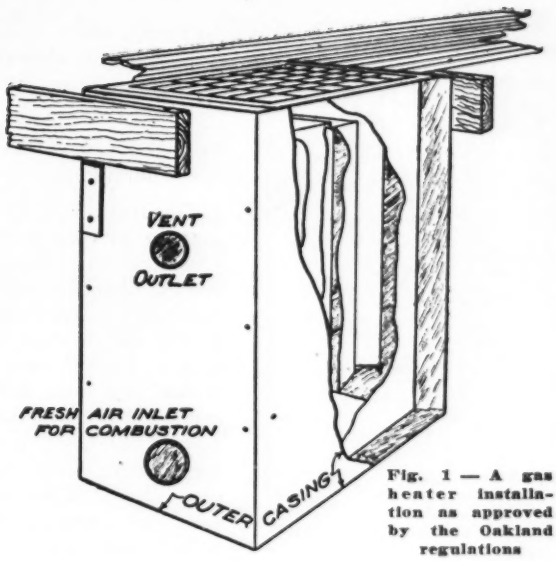


Fig. 1 — A gas heater installation as approved by the Oakland regulations

While few cities in their plumbing codes give even passing mention to the subject of gas appliances, Oakland, Calif., has recognized the necessity of guarding the life and property of its citizens against the dangers connected with the improper installation of gas appliances, and has adopted a "gas appliance code."

FOR many years we have been accustomed to the more or less rigid regulation of plumbing and electrical installations, and of other installations and practices which concern life and property.

Often it has been wondered why the installation of gas appliances was not surrounded by a far greater degree of protection to life and property than it has generally received. This branch of the building industry is almost universally considered to be allied to the plumbing industry, and when subject at all to regulation and inspection the administration of the work is handled through the city plumbing department. Notwithstanding this fact, plumbing codes are few and far between which give even passing mention to the subject of gas appliances. As a matter of fact only a very few such codes give any attention whatever to the subject.

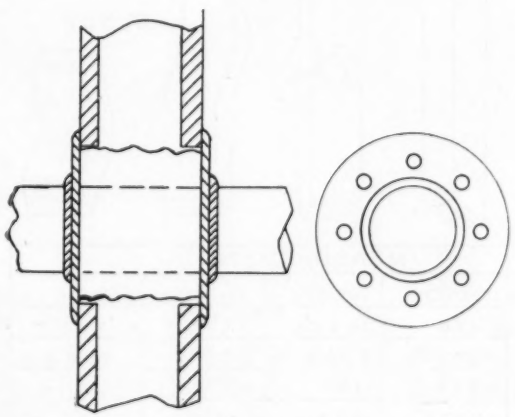


Fig. 2—Detail of precautions required when a vent runs through a wall of combustible material

To be sure, a few plumbing codes are beginning to show a brief ordinance requiring a vent flue from gas water heaters. This, of course, is a step forward, but it is far from covering the subject in an adequate manner.

If we could know what the annual loss of life amounts to from asphyxiation, due to unvented gas appliances or the defective installation of them, we would be amazed that such conditions should be tolerated.

In view of such generally prevailing conditions, it is refreshing to learn that the city of Oakland, Calif., on April 23 of the present year, adopted a "gas appliance code," which is the most comprehensive code we have ever seen. We are indebted to Joseph E. Francis, chief plumbing inspector of Oakland, for a copy of this code, and think it will be of distinct advantage to present to our plumbing trade, some of its chief features.

The code divides into the following headings: Definitions; Licenses, Permits; Fees; Inspections and Inspectors; Material Standards, Materials Permitted, and Workmanship; Illuminating Fixtures; Ventilation for Gas Appliances; Gas Flues; Vent Inlets; Vents.

In addition, the code covers completely the subject of

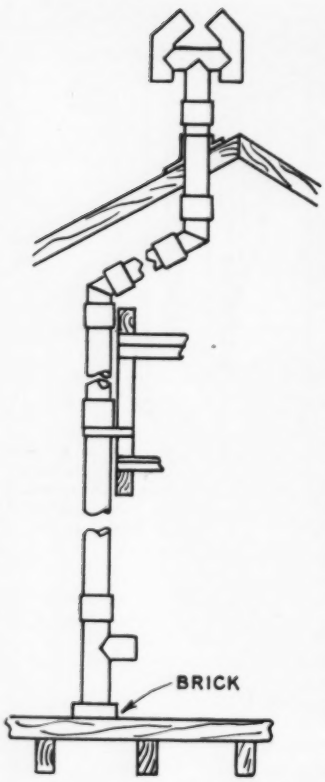


Fig. 3—"Starting sections of flues shall be set upon a brick or concrete block"

gas piping, which, however, does not concern our present handling of the subject.

Fees and License Requirements

Administrative subjects are covered in the same manner as in the average plumbing code, that is, gas appliance dealers are required to hold a license; pay a license fee of $25; make a deposit of $25 as a guarantee; perform work only on permit; pay a fee on each gas appliance installed, and stand inspection on all work installed.

A person holding a plumbing license needs no additional license for the installation of gas appliances.

There are many valuable sections in this code which we are unable to present, owing to lack of space. We will confine ourselves to the most important sections of the Oakland code.

Venting Gas Appliances

Several excellent provisions are included in the following sections:

"Water heaters shall not be installed in bathrooms or in sleeping rooms, nor in any room or enclosure having a floor area of less than sixteen square feet.

"Unvented gas space heaters, such as blue flame, luminous flame, radiant type, floor and wall heaters, hot air radiators, and gas steam radiators, shall not be installed in any room or other enclosure having a floor area of less than forty square feet. Except that no unvented appliance shall be installed in any room used for sleeping purposes and appliances installed in such sleeping rooms shall be rigidly attached to the gas piping outlet.

"Space heaters having a rated gas capacity of fifteen cubic feet or less per hour may be connected by means of flexible metal tubing or hose."

The first of these sections concern ventilation, and are of utmost importance when it comes to using gas appliances in living quarters.

The following provision is illustrated by Fig. 1: "Gas heaters of the floor type shall not be installed in any location inaccessible for inspection or repair. An opening or door of not less than thirty inches by thirty-six inches in size shall be provided for access to the room or enclosure in which any such heater is installed. Gas heaters of the type designed to supply heat to several locations by means of heat pipes, shall be installed and be subject to inspection as required under the Warm Air Heating Ordinance."

Out of the ordinances on fixtures, we select the following as important:

"No gas appliance shall hereafter be installed, or any existing gas appliance replaced, unless the room or place where such gas appliance is located is ventilated so as to properly support combustion.

"No gas appliance shall hereafter be installed, or any existing gas appliance replaced, unless the same shall be vented to a flue which shall be of the full size of the vent outlet of the appliance to be vented, except that storage water heaters of capacity not greater than four gallons need not be vented.

"Heating appliances designed by the manufacturer to be used unvented, shall not be installed in any room or enclosure unless permanent ventilation be provided for. For such appliances having a rated gas capacity of fifty cubic feet or more per hour, there shall be two ventilating cuts or openings provided, with not less than one hundred and twenty square inches of free area in each, and which shall lead to an area where an uninterrupted supply of fresh air is assured. One such opening shall be located at a point not less than one foot above the floor level, the other to be at a point not less than one foot below the level of the ceiling. For such appliances having a rated capacity of less than fifty cubic feet per hour, one only such ventilating duct or opening shall be required, which shall have not less than thirty-six square inches of free area and which shall be located at a point not less than one foot below the level of the ceiling.

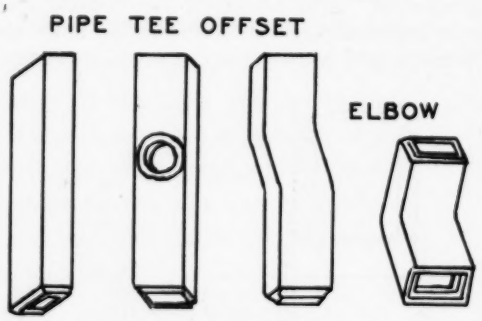
"No appliance shall be installed or operated in a garage or any other place where inflammable vapors are likely to be present, unless the design, operation and installation of said appliance is such as to eliminate the possible ignition of inflammable vapors."

Fig. 1 applies to the foregoing requirement.

Gas-Flue Regulations

On the subject of gas flues the code is excellent. The important sections are as follows:

"Flues shall be constructed of terra cotta, cement or approved asbestos compound gas flue pipe of the male



MEASUREMENTS			
OUTSIDE	INSIDE	OUTSIDE	INSIDE
2¾X6	1¼X4¾	3½X5	2X3½
3¼X6¾	2X5¼	3½X7⅜	2X6¼
4¼X8½	3X7	4½X13	3X11⅛
8⅛X8½	7X7		

Fig. 4—Flue pipe fittings required

Why
go down like a fish!

A Jennings Sewage Pump *has only the suction pipe* submerged

You can inspect or clean a Jennings *right out on the floor*

CONVENIENCE is the outstanding feature of a Jennings. There is nothing awkward about getting at this sewage pump. The entire assembly is installed on the floor, outside the pit. Nothing is submerged except the suction pipe.

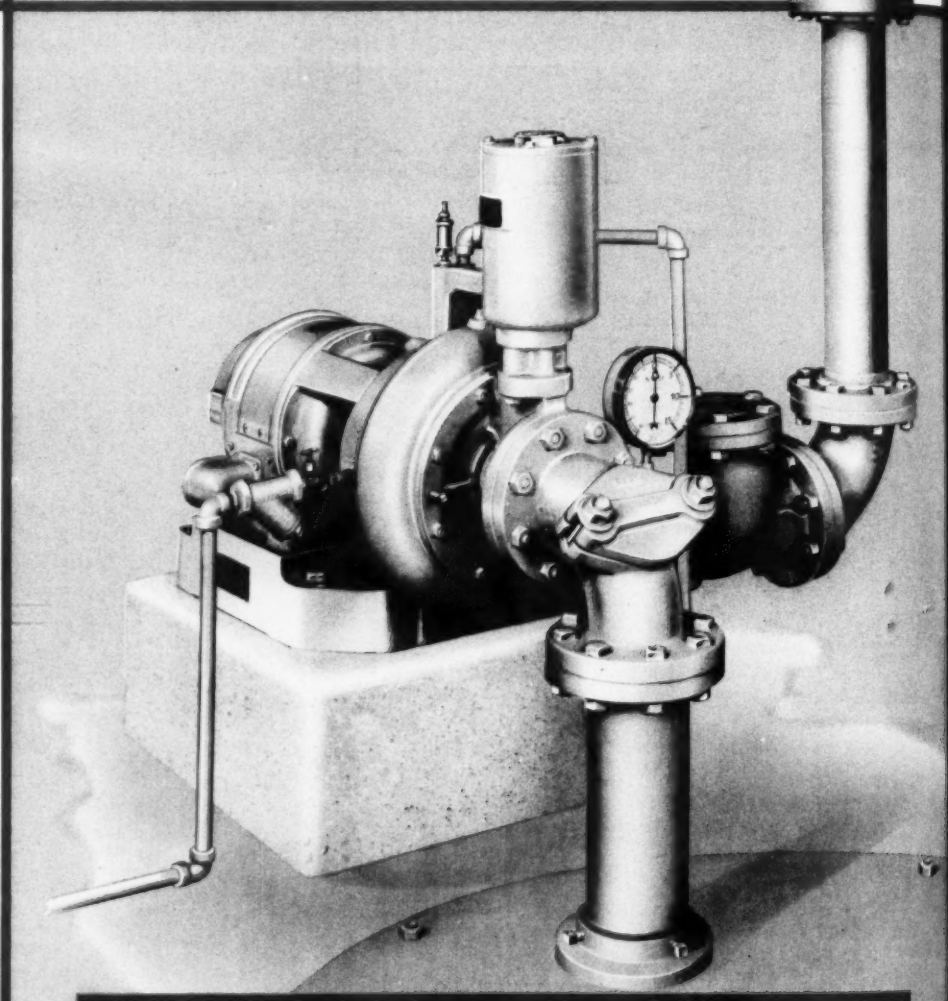
With every working part so accessible, easy work is made of inspection and cleaning. Opening up the pump and even removing the impeller takes only a few minutes. Neither pit cover, piping nor shaft alignment need be disturbed.

Jennings Suction Sewage Pumps are furnished in capacities and heads to meet all the usual requirements. All sizes are equipped with non-clog impellers. No screens are required.

Write for Bulletins 113 and 124.

NASH ENGINEERING COMPANY
33 Wilson Road, South Norwalk, Conn.

Jennings
SUCTION
SEWAGE
Pumps



Note these 10 *features of Jennings Design*

1. Motor is commercial, ball-bearing type selected for dependability, always available from stock.
2. The only two moving parts are mounted on a single heavy shaft requiring but one stuffing box, eliminating flexible coupling.
3. A rugged supporting bracket, integral with motor end shield, makes pump and driving motor a single compact assembly in perfect alignment.
4. The non-clog impeller is accurately balanced, liberally proportioned, readily reached.
5. There are only two bearings to lubricate.
6. Suction elbow is fitted with hand hole plate to permit cleaning suction pipe and impeller without dismantling pump.
7. Priming unit is a simple, sturdy Nash Hytor.
8. Iron catch basin has gas tight cover.
9. Controlling float switch is totally enclosed and oil immersed.
10. Ball float has adjustable stop.

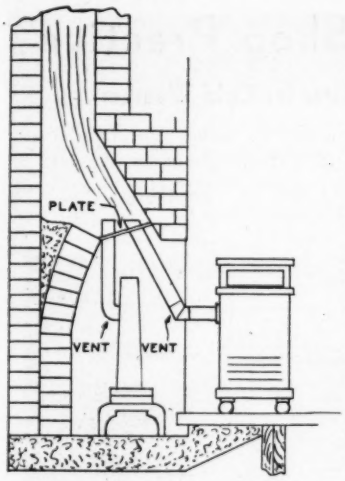


Fig. 5—The connection of gas appliances in fireplaces is covered as shown

and female type. Each joint shall be cemented, to be gas and water-tight, with the male end pointing down. Terra cotta or cement flue pipe shall be cased in galvanized iron or steel of not less than No. 26 U. S. Standard gauge.

"The internal area of any flue shall not be less than the area of the largest vent connection inlet plus fifty per cent of the area of all other additional inlets connected thereto; provided, however, that in the case of a rectangular flue the total internal area of such flue shall be increased not less than ten per cent greater than the total area as figured above. The following table shall be used for the computation of flue areas in round flue pipe or vent inlets:

3 inch round pipe	7.1 square inches
4 inch round pipe	12.6 square inches
5 inch round pipe	19.6 square inches
6 inch round pipe	28.3 square inches
7 inch round pipe	38.0 square inches
8 inch round pipe	50.3 square inches

"Flues shall extend up to and above the roof line not less than eighteen inches. No flue shall terminate within a point three feet above or ten feet from any window or other opening designed to serve as a means of ventilation of any building or room therein, nor shall a flue terminate in any court or vent shaft which is designed to serve as a source of air for the ventilation of any building or room therein. Flues emerging from any location in which down drafts would interfere with their proper functioning shall be extended above the level of the point of interference, and every such extension of any flue shall be securely braced every six feet of its length.

"Flues from clothes pressing machines may be of copper to a point of termination as required in Section 42. All horizontal joints in such flues shall be soldered. A suitable condensation drip outlet shall be provided. Appliances installed in commercial kitchens where a suitable ventilation system is provided may be vented into such ventilation system subject to the approval of the inspector.

"Flues may start at any desired level. When concealed they shall be securely supported between studding. When exposed, flues may be supported on the ground, a floor, or by means of a galvanized metal hanger not less in weight than No. 22 U. S. standard gauge. Starting sections of terra cotta or cement flues shall be set upon a brick or concrete block not less in area than the size of the flue, and not less than two and one-half inches in thickness. (See Fig. 3.)

"Vent inlets to gas flues shall in all cases be provided by means of branch fittings, constructed of like materials as such flues. Vent connections made through a fireplace shall be made by means of a galvanized iron or steel plate set in the chimney throat, thoroughly cemented and to be air and gas tight. Cutting of vent inlets into flues is prohibited.

"Where two or more inlets are provided in any flue, such inlets shall be off-set in such a manner that no section of any inlet shall be opposite to other inlets in such flue.

"Bends or off-sets in gas flues shall be of one-piece and shall not be in excess of sixty degrees from the vertical.

"Vent inlets not in use shall be tightly closed by means of an approved cap.

"Vents and vent fittings may be constructed of copper not less in weight than sixteen ounces per square foot, or of galvanized sheet iron or steel not lighter than No. 26 U. S. standard gauge; provided any such galvanized sheet iron or steel vent does not exceed five feet in length. Such pipe shall be formed by means of a locked seam and a rivet or other approved locking device shall be placed at the female end of the seam in each length of pipe or fitting used. Each joint shall be lapped not less than one and one-half inches with the male end pointing down. Vents from gas ranges, plates or water heaters in domestic kitchens may be constructed of sheet iron or steel not lighter than No. 28 U. S. standard gauge.

"Vents shall be securely supported at intervals of not more than six feet.

"Horizontal vents shall not exceed twenty feet in

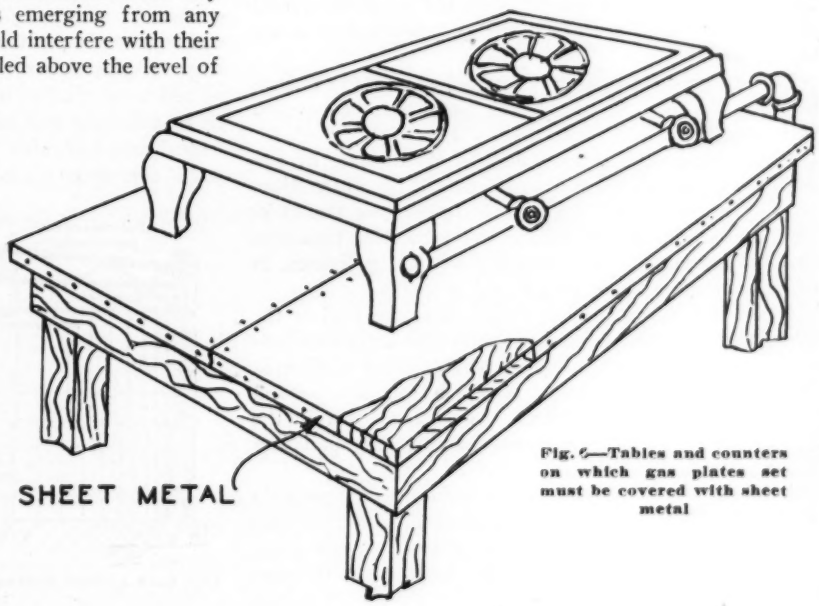


Fig. 6—Tables and counters on which gas plates set must be covered with sheet metal

length and shall be graded up toward the flue not less than one inch to each foot of length.

"Vents shall not be installed within three inches of any combustible material. They may be installed within one inch of protected combustible material. When passing through walls, partitions or floors of combustible material, approved ventilated and insulated sleeves shall be installed. (See Fig. 2.)

"Vents from appliances having pilot lights and designed for automatic or remote control, shall be provided with an approved type of draft hood. No such vent shall be connected to any chimney serving a steam or hot water heating system, using fuel other than gas. Except as provided in this section, such vents may be connected to a chimney serving apparatus using fuel other than gas, provided the pilot attachment is so constructed as to automatically cut off the supply of gas to the main burner when combustion of gas is not taking place at the pilot light."

Some of the sections covering use of materials are as follows:

"Flexible metal tubing or hose approved by the American Gas Association may be used for connecting gas appliances designed for portable use, such as washing machines, ironers, or other appliances the location of which must be changed during operation; provided, however, that such flexible metal tubing shall not exceed six feet in length. There shall not be any shut-off or gas cock between such tubing and the burner or burners. Where such tubing is used, a shut-off valve or gas cock shall be installed at the point where tubing is connected to the gas supply pipe.

"Appliances so constructed that the burners are not shielded by metal or other approved insulating material shall not be located within twelve inches of any combustible material. Appliances so constructed that metal shields or other approved insulating materials are an integral part of their construction shall not be located within six inches of combustible material nor within three inches of protected combustible material."

Flue pipe and fittings required are shown in Fig. 4. The subject of flue connections should be given special consideration at this time of the year when houses are kept closed.

The requirement that all tables and counters in restaurants, hotels, etc., on which gas plates set, be covered with sheet metal, is illustrated in Fig. 6.

Fig. 5 shows the general idea of the venting of gas appliances, two of these being shown in the illustration.

It seems to us that the various sections of the Oakland code cover all the safety and protective measures that are needed in the installation of gas appliances, to make their use safe as to life and property.

It appears that the Pacific coast is in the lead at the present time in the adoption of protective measures governing gas appliances, for we find that other California cities have very acceptable provisions on this subject notably the city of Pasadena. We believe that in the California cities, all ordinances covering gas appliances are a part of the plumbing code.

The Pacific Coast Building Officials' Conference in 1928 adopted a uniform building code, and this contains a very good section on this subject, but not going into the subject extensively or in detail, as in the case of the Oakland code.

Job and Shop Practice

A Good Pointer for Cold Weather

DURING the winter months when the hands are often numb and stiff with cold, or where one is working in tight cramped quarters, the metal handle of a pipe wrench is not a comfortable thing to grip and

strain on. Get a strip of rubber cut from an old tire inner tube, about 5 in. wide and 7 or 8 in. long. Wrap it tightly and snugly around the handle close to the end. Then tie it on securely with stout cord. It will make plenty of difference, and will prevent many a jammed and bruised knuckle, and finger.

Improve Methods of Treating Sewage

(Continued from Page 52)

plant is shown in Fig. 6. It is a very simple and effective method of catching gases generated in one of the simpler types of digestion tanks. In the Plainfield plant, the gas is used for heating and for operating gas engines which drive air compressors. The cover is made of thin steel, and floats on the surface of the tank; at the center is a gas drum. A vertical cover extends downward around the outside edge of the cover to trap the gas. Originally designed to catch the foul odors, this device has proved to be a simple and effective means of collecting very useful and burnable gas.

In the Sugar Creek plant at Charlotte, N. C.,

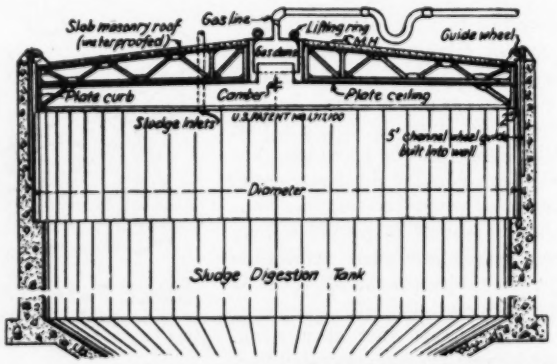
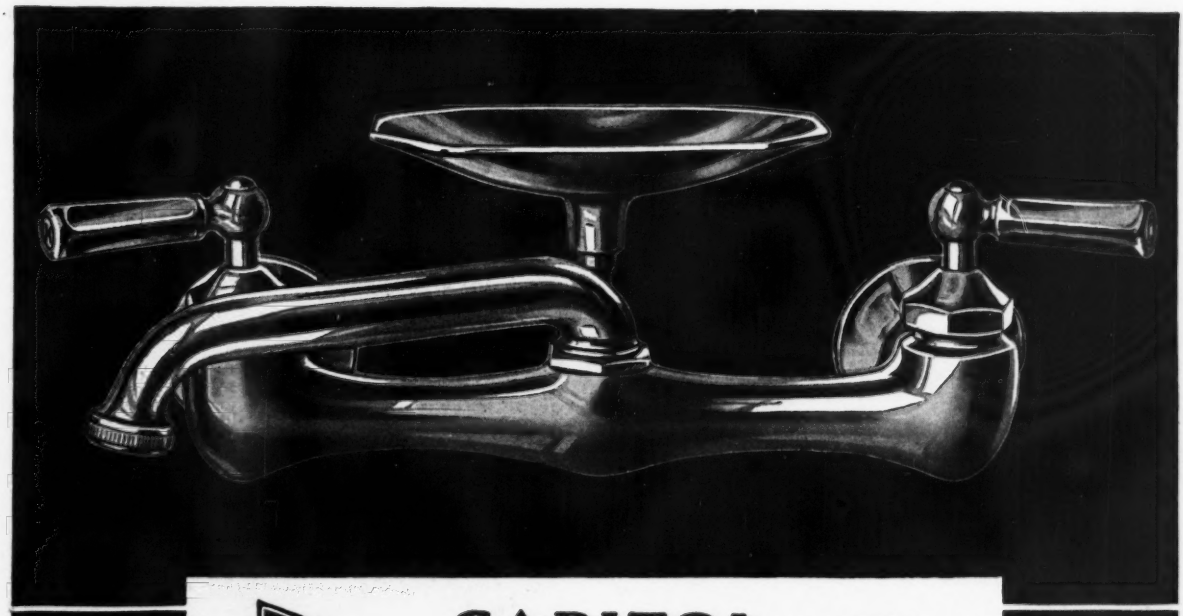


Fig. 6—A special floating cover for the collection of gas. The Downes method



CAPITOL BOHN-910 SINK FIXTURE

Here is a sink fixture that combines utmost utility with rare good looks—worthy of a place in the finest home.

It is obtainable in two types. In chrome-plate with china soap dish and china handles, or in chrome-plate with metal soap dish and metal handles.

Both are made with 8" centers and are obtainable at the same price with either female eccentric, or male adjustable couplings.

They are precision-made throughout and in keeping with those manufacturing standards which distinguish the entire Capitol line.

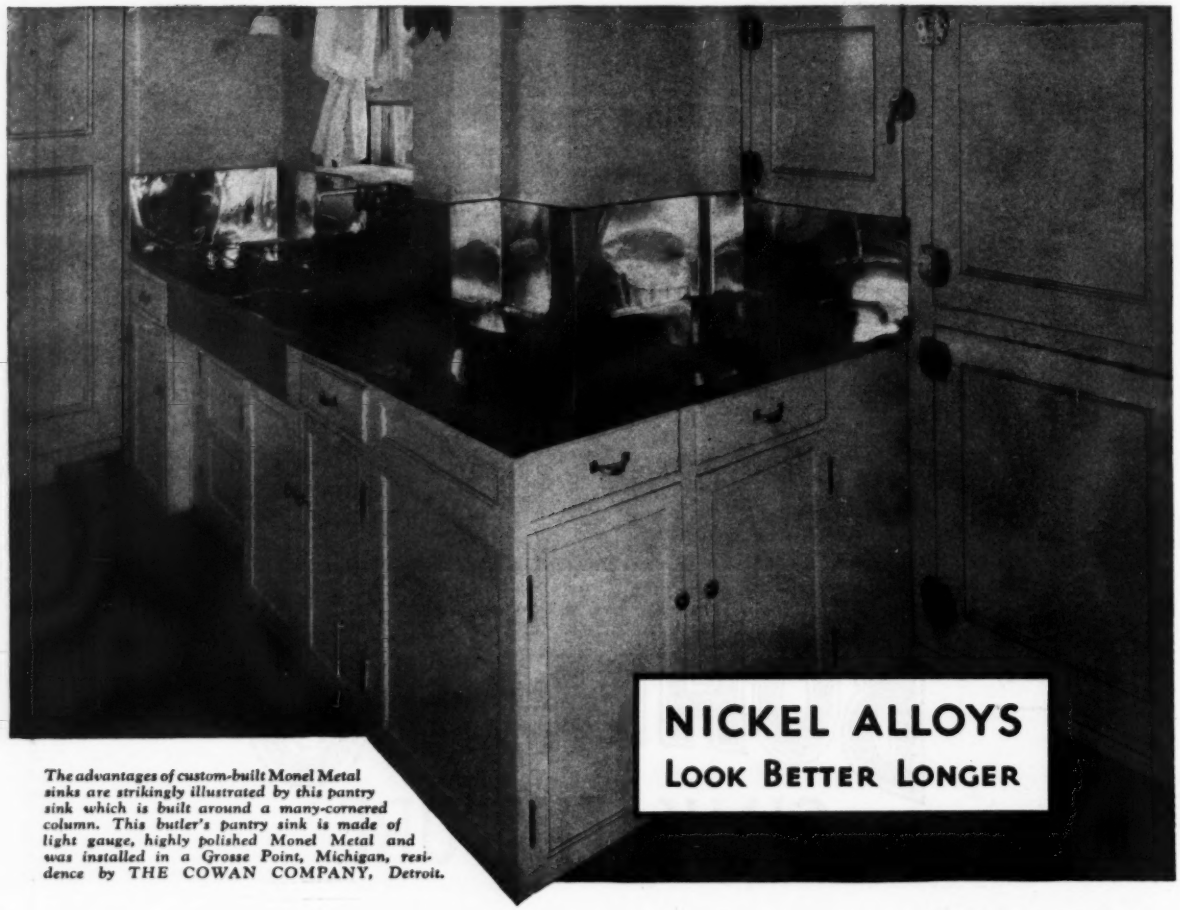
Displayed and furnished by the better plumbing supply houses and plumbing contractors throughout the country. If there is not a dealer near you, write to us.

Bohn Aluminum & Brass Corporation

CAPITOL BRASS DIVISION

MANUFACTURERS OF BRASS VALVES, BOILER TRIMMINGS AND PLUMBERS' BRASS GOODS

DETROIT~MICHIGAN



The advantages of custom-built Monel Metal sinks are strikingly illustrated by this pantry sink which is built around a many-cornered column. This butler's pantry sink is made of light gauge, highly polished Monel Metal and was installed in a Grosse Point, Michigan, residence by THE COWAN COMPANY, Detroit.

Monel Metal Custom-built pantry sinks fit the odd places and "look better longer"

DIFFICULT corners hold no terrors for the plumber who installs custom-built Monel Metal sinks—or for the fabricator who makes them. To the contrary, odd places offer you an opportunity to sell sinks of this modern material where no standard fixtures could "fill the bill".

In addition to their ready adaptability to any type of pantry layout or design Monel Metal sinks give you selling features not available in any other material. Monel Metal never rusts. It resists the corrosive attacks of food juices, cooking vapors and cleaning compounds. It can be kept clean with minimum effort. Light gauge Monel Metal—the preferred material for pantry sinks—gives a cushioning effect that reduces glass and china breakage.

Don't forget that Monel Metal is ideal for kitchen sinks, too. Custom-built *heavy gauge* Monel Metal kitchen sinks are lifetime sinks. Their beauty and convenience survive constant hard wear and abuse.

When your customers want custom-built kitchen or pantry sinks remind them that "Nickel Alloys look better longer" and that Monel Metal is a Nickel-copper alloy containing two-thirds Nickel. Another Nickel alloy you should know more about is Nickel Silver, containing not less than 20% Nickel. Plumbing fixtures made of this solid alloy are now available.

More information on Monel Metal and other Nickel alloys will gladly be sent to you.

MONEL METAL

Monel Metal is a registered trade mark applied to a technically controlled nickel-copper alloy of high nickel content. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

elaborate plans have been made for the collection of the gas, which will be utilized in various ways. The gas engine driving one of the air compressing units is operated normally on this gas, as is some of the pumping equipment. A gas holder operating under 6 inches of water pressure and with a capacity of 30,000 cu. ft. stores the collected gas and feeds it to the laboratory and gas engines as needed.

In the new Milwaukee sewage treatment plant, one of the latest and most modern, every bit of gas is collected and utilized. The principal use is in heating water to maintain the most efficient degree of temperature in the sludge digestion tanks. Fig. 4 shows some of the collection equipment at this plant.

There are many other installations in this country where gas is utilized. At Birmingham, England, a 150 h.p. gas engine has been operated for the past six years on sludge gas, and the total ultimate possible power to be derived is estimated at 1700 h.p. In Germany, gas utilization has gone further, perhaps, than in any other place. In Stuttgart, 100,000 cu. ft. per day of gas is being produced, which, after being treated to remove impurities is sold to the local gas company where it is mixed with coal gas for commercial use.

The gas is sold at a good profit which, after deducting the annual cost of operating the gas collection equipment, will pay for the original construction cost of this equipment in two years. At Cologne, the gas is used to heat the sludge, thus providing better digestion, and to operate the mechanical plant. There are many other installations in Germany, and research is going forward to discover better methods of handling the problem of waste disposal.

Flat Rate Basis for Repair Charges

Would the plumbing and heating industry benefit from telling the public in advance what it will have to pay for repair work?

♦ ♦

Would the contractor doing jobbing work be better off if a flat rate basis was worked out for the industry?

♦ ♦

Would the public get over its feeling that it is being overcharged?

The above questions were submitted to contractors all over the country, and an unusual number of responses were received

Here are some of the replies

"Flat Rate on Repair Work Would Stimulate Business"

In reply to yours of the 24th instant, we wish to say that we have given your suggestion considerable thought and are herewith forwarding our opinion.

We believe that a satisfactory flat rate on repair work would stimulate business and take away some of the dread which the public has toward calling in a plumber. Of course in the case of the automobile repairs they have a standard parts price on each model and from experience they have computed the average cost of labor for different operations. For instance, the Model 60 Chryslers are all put together with the same number of bolts, pistons, etc.; but a range boiler may have three connections or it may have five or more—it may stand free in a basement or it may be between a furnace and a partition —the connections on the top may be tight up against joists or they may be free, making it easy to install a new tank in the former case and hard in the latter, especially if the new tank is a little higher than the tank that is being replaced. We have found that range boilers vary in height ½ to ¾ of an inch.

A satisfactory flat rate on repair work would take away some of the dread which the public has toward calling in a plumber

Take the closet tank—there are various types of these, and the writer believes you would have to have at least ten prices or more to cover the repairs on this item alone. This would be confusing to the general public. For instance, tank balls vary in price from 7c to 45c; if one flat rate price was used for installing a tank ball, all or at least most of the plumbers would be buying the cheapest tank ball they could get to make this repair.

The same holds true of faucets, especially the swinging spout type for kitchen sink. These can be purchased for prices ranging from $2.25 to $9.00 each.

Naturally if there was a flat rate price for installing a faucet of this type the customer would not get the $4.50 to $9.00 variety, but in most cases the $2.25 faucet would be installed.

It is possible that something could be worked out, and it is not our intention to discourage the scheme—because almost anything would be better than what we now have.

We believe that next to seeing the dentist the public dislikes to see the plumber.

Detroit, Mich. HARRIGAN & REID CO.

"We Have Considered This Scheme Many Times"

We received your letter of October 20, 1930, concerning three questions on flat rate repair work and the reprint from DOMESTIC ENGINEERING. The question involved is one that requires a great deal of thought, and means much to our business. We have seriously considered this same scheme many times. There are many advantages and disadvantages and it is a question of weighing them to determine which are the largest and which we should choose. From our viewpoint, flat rate is impractical because of the varied conditions of each job. If the flat rate was worked out in great detail, allowing for all the conditions, it would be unwieldy and almost impossible to put into practice to better advantage than our present system. There is also the danger of advertising, with the result of opening yourself to competition by incompetent firms, who are unable to obtain the correct data.

We believe it worth while to keep typical costs, on the regular type of repair work and installations, with the result that we are able to quote our customers average costs, which are a guide.

Another difficulty with flat rate work is the fact that you are often overcharging one customer and undercharging another, which we do not believe to be fair or justifiable for the benefit derived. Nor does it aid the industry as a whole to work on a basis where one customer's account is helping to carry another. We firmly believe that each person should carry his own share of costs. Certainly supply jobbers and manufacturers do not use such a policy in their industries.

An experience we recently had in connection with the automobile flat rate policy was that we were quoted a flat rate of $10.00 with possible small additions that might bring the total cost to $18.00 or $20.00. When the invoice was rendered it amounted to $41.55. Where is the basis for the belief that flat rate would convince the public they were not being overcharged?

A scheme that we believe can be worked out to better advantage to all concerned, when once studied out and analyzed, is to make a survey of the property in question, large or small, and determine the cost per month, or per year, to maintain their plumbing and heating systems in first-class condition, with the understanding that all new materials required will be invoiced extra at their regular price plus cost of installation. This is a practical plan too, that can be judged and adjusted through experience, and the best part of the whole scheme is the fact that with good mechanical attention, no system will get into bad shape and after the first year the average cost of maintenance will drop considerably to the benefit of the customer, who will receive much better service from all the equipment at lower cost.

Make a survey and determine the cost per year to maintain plumbing and heating systems in first class conditions

We have tried to convey to you our viewpoint and opinion of these questions, gained from past experiences and our understanding of the problems of the plumbing and heating industry. If we can be shown the advantages of a better solution, it will be heartily appreciated.

Yours very truly,
The A. C. Eynon Plumbing Co., Inc.,
(Signed) W. E. Eynon.

Canton, Ohio.

"This Program Will Be a Tonic for the Industry"

I would like to make the suggestion that all three questions require but one answer. They should, He will, They must.

The public knowing a certain job will cost so much will make it much easier to collect the bill without argument or waiting for an indefinite period for payment. Then too, they will be more apt to call on you at the first sign of trouble instead of allowing a troublesome condition to grow worse.

Yes, because he can not help it. This would be one of most helpful programs for making ethical plumbers.

If charges are advertised and are standard then they must regard your charge as legitimate and fair.

The putting over of this program will, I am sure, be a tonic for the industry and this time is the most opportune to put it over.

(Signed) William Davidson Yaehrling.

Palms, Calif.

"A Flat Rate Would Be Hard to Establish"

Have been reading and following the discussions on a flat rate basis for plumbing repair work and really cannot see where a flat rate on everything can be worked out successfully in general repair work, especially in a country town. It would take a lot of educating, but might be done as most people don't know a ball cock from the flush valve, and if a person charged for one and they thought you did the other it would mean a little argument.

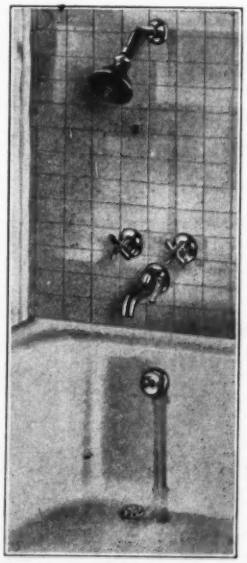
I notice that a good many auto repair shops do not use the general repair list, as a good many think the flat rate is too high, and in some cases it is true, while other charges are O. K. Just as sure as we had some flat rates established, some fellow would cut under that price, and then the feeling of overcharge would be just as bad as ever. I would like to see something worked out but think a flat rate on everything would be hard to establish.

Stanton, Nebr. (Signed) Fred C. Glaser.

We make a "strike" every time we sell Chicago Faucets

"A plumbing business is like a bowling game. You get strikes, spares and railroads in the form of compliments or complaints from customers. But there's nothing so satisfactory as making a strike when you need one, and that's our experience with Chicago Faucets. Every time we sell them the sale lands right in the old pocket. And the only comebacks we get on Chicago Faucets are that customers come back for more."

Alfred C. Grosch
Chicago Master Plumber



The "Manhattan" Bath Fixture Has No Equal

Compare these features with the bath fixture you're now selling:

1. Shower face plate removed by loosening only a center screw.
2. Only two valves—each with standardized, removable unit.
3. 1-piece fitting for tub and shower connections.
4. Automatic diverter on spout—prevents scalding or unexpected showers.
5. Mechanical waste with everything accessible from face of tub.
6. Also furnished with integral, automatic stops which shut off water when Quaturn Valve is removed for re-washering.

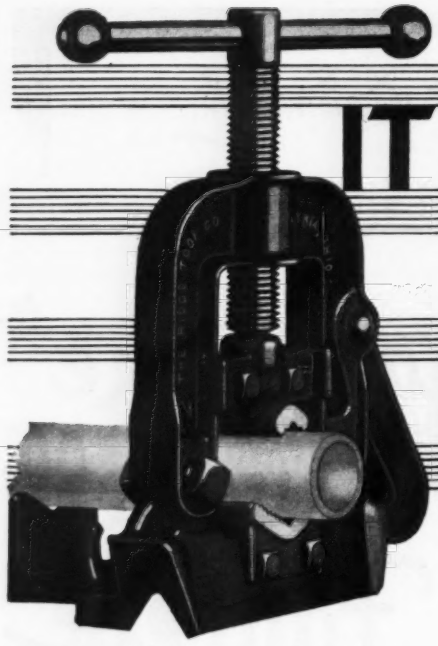
The Chicago Faucet Company,
2700-22 N. Crawford Avenue
Chicago, Ill.

I'd like to bowl over a few prosperity pins myself in 1931, so send me your new 76-page catalog.

Name .....

Address .....

CHICAGO FAUCETS



IT HAS NO-MAR JAWS FOR NICKEL PIPE

RIDGID Bench Vise with no-mar jaws, pipe rest and bender.

WITH the new RIDGID no-mar vise jaws, standard equipment with all yoke vises, you can handle nickel plated pipe as easily as iron pipe—and not a fear of marring the finish.

For these RIDGID no-mar jaws grip the pipe firmly without cutting the surface—a long, straight-line grip of metal softer than the nickel. The result is easier work and no spoiled pipe.

RIDGID Chain Bench Vise, with pipe bender and pipe rest.

But this advantage is only one of several typical RIDGID features, which include pipe rests and pipe benders on all styles, and construction throughout that makes these vises a pleasure to use and of long life.

A complete line: chain and yoke types in bench, stand, post and kit patterns. Your jobber has them.

The extraordinary popularity of RIDGID Pipe Tools has been due to the fact that each one—pipe wrenches, super-sixes, vises, cutters, and threaders—has offered new and useful features never found before on tools made for the same purposes. If you are not acquainted with some of these tools, take a look at them the next time you visit your jobber.

THE RIDGE TOOL CO., Dept. DE, Elyria, O.

RIDGID

PIPE TOOLS

SUPPLY NEWS

AMONG MANUFACTURERS, WHOLESALERS AND SALESMEN

Announce Changes in American Radiator and Standard Sanitary Corp.

Clarence M. Woolley, chairman, and Theodore Ahrens, president, American Radiator & Standard Sanitary Corp., have just announced the following changes in the corporation's personnel:

M. J. Beirn, vice president and general manager of sales of American Radiator Co., is appointed vice president and general manager of sales of American Radiator & Standard Sanitary Corp.

Charles B. Nash, vice president of Standard Sanitary Manufacturing Co., is appointed director of publicity of American Radiator & Standard Sanitary Corp.

A. R. Herske, sales promotion manager of American Radiator Co., is appointed sales promotion manager of American Radiator & Standard Sanitary Corp.

John Hall, general sales manager, European division, Standard Sanitary Manufacturing Co., is appointed vice president and assistant general manager of sales of Standard Sanitary Manufacturing Co.

The resignation of George Herth as vice president and general manager of sales of Standard Sanitary Manufacturing Co. has been accepted.

Ward Love Pump Corp. and Permutit Co. Merge

The organization has been announced of a general water treatment corporation, as a holding company, to merge the interests of the Permutit Company, New York City, and the Ward Love Pump Corp., Rockford, Ill., The Ward Love Pump Corp. has two plants at Rockford and has been in business for 55 years. The Permutit Company has plants at Brooklyn, N. Y., and Birmingham, N. J. The company has twenty-three branch offices.

◆

Federal Pipe & Supply Co. Opens New Addition

Federal Pipe and Supply Co., Chicago, formally opened the new addition to its plant and office at 900 South Campbell avenue, on Wednesday, December 10. The building was open for inspection from noon until five o'clock, many members of the trade attending the affair.

◆

Builds Addition to Plant

The Milwaukee Flush Valve Company, Milwaukee, Wis., is building a new one story addition to its plant at 125 Reservoir avenue, in that city.

A. R. Herske

M. J. Beirn

C. B. Nash

Cond-air Products, Inc., Is Formed

The Cond-air Products, Inc., Mayville, Wis., was recently formed to manufacture and sell extended fin radiation, humidifying apparatus and radiation grills. The president and engineer of the company is E. S. Carey.

◆

Now in New Location

The Veith Supply Co., of New Orleans, La., has moved its warehouse from 2319-39 St. Louis street, which is entirely an industrial section, to 601-609 North Claiborne avenue, which is a commercial section. The new location is on the corner of Lafitte avenue, where there is parking space for thirty trucks. The building is of mill construction, with cement floor, plate-glass front, and plenty of space for display purposes.

◆

Modine Manufacturing Co. Builds Plant Addition

The Modine Manufacturing Company is erecting a $75,000 addition to its plant in Racine, Wis. T. H. Batton, vice president of the concern, said that though there was no need for immediate expansion, directors of the company believe that the erection of the new building will help to stimulate business in the city of Racine.

◆

Opens Boston Office

The Bigelow Company, New Haven, Conn., manufacturer of boilers, economizers and steam generators, has recently opened a branch office in Boston, Mass. W. S. Anderson, Jr., is in charge of the branch, which is located at 101 Milk street.

◆

Salesmens' National Association to Meet Dec. 13

At its November meeting at the Governor Clinton hotel, New York City, the New York Chapter of the National Association of Plumbing and Heating Salesmen voted to call a special meeting of the members of the national organization for December 13 at that hotel to discuss the affairs of the national association.

The program calls for a meeting of the membership during the morning, a get-together luncheon, and in the afternoon a session open to all salesmen, at which two prominent speakers will be heard. A dinner dance will be given at the hotel in the evening. William F. Weber, president emeritus of the National association, has announced his candidacy for the office of permanent secretary of that organization.

Clarence Popp, New York manager of the Toledo Pipe Threading Machine Co., Toledo, Ohio, spoke on modern selling methods, which he said amounted to well directed hard work. He also cited a number of personal sales experiences. John H. Taylor, New York manager of Detroit Brass & Malleable Works, Detroit, Mich., gave an analysis of prevailing conditions within the plumbing and heating industry and expressed the opinion that the trade practice movement should be given careful consideration by salesmen, as the rules will unquestionably have a stabilizing influence.

Death of Frank N. Wells

Frank Newton Wells, president of the Beaton & Corbin Mfg. Co., Southington, Conn., died recently in his 73rd year. He was born in Wisconsin but at an early age moved with his family to Connecticut. Mr. Wells' first business venture was his connection with the Humason & Beckley Mfg. Co. He was with this firm for nearly 30 years. Mr. Wells was one of the organizers of the Beaton & Corbin Mfg. Co., having served as one of its directors until the death of his father, when he became president. Albert R. Wells, treasurer of the Beaton & Corbin Mfg. Co. is his brother. Mr. Wells is survived by his widow.

◆

Death of Robert J. Gross

Robert J. Gross, for many years prominent in the heating industry, died November 21 at Dunkirk, N. Y. In 1890 he organized the United States Radiator Co. in that city and was its president until 1910, when he was the chief factor in bringing about the merger of his company with the United States Heater Co., Detroit, Mich.; the United States Radiator and Boiler Co., Pittsburgh, Pa.; the Herendeen Mfg. Co., Geneva, N. Y., and the heating department of the J. L. Mott Iron Works, New York City. Becoming president of the consolidation which is the United States Radiator Corp., Detroit, Mich., Mr. Gross remained president of the corporation for several years, then retired and became a member of its board of directors, the office he held at the time of his death.

Born at Brighton, Ontario, Canada, in 1850, he learned telegraphy with the Great Western Railroad at an early age and later became a train dispatcher. Several years later he made a connection with the Erie Railroad as train dispatcher at Dunkirk. The Brooks Locomotive Works in that city some time later secured the services of Mr. Gross as traveling agent, and he became vice-president of the company shortly before it was taken over by the American Locomotive Works. He was made vice-president of that company in charge of domestic and foreign sales. He was a bank president and served as chairman of his Republican County Committee. His grandfather received the first diploma in medicine awarded in Canada. Mr. Gross was a widower, Mrs. Gross having died several years ago. Funeral services were held November 24 at Dunkirk.

◆

New Air Filter Co. Organized

The Independent Air Filter Co., Inc., has just been organized, with office and factory at 29 South Clinton street, Chicago, to manufacture air filtration equipment. J. L. Harpham is organizer, president and general manager. Q. G. Ewen is sales manager for the Chicago district. Mr. Harpham was organizer, in 1925, of the National Air Filter Co. and its president and manager until the company entered the consolidation known as the American Air Filter Co. Mr. Ewen was also formerly with the National Air Filter Co., as Chicago district sales manager, and later was associated with the American Air Filter Co. in its Chicago office.

Business is always good

The "hustler" will tell you!

THE "live" steamfitters aren't complaining about business because instead of chanting "there isn't any business," they are out hustling for it,— in their own neighborhood which is the real green pasture, the one full of real profitable business.

Practically every building has some kind of a heating unit needing inspection. High and low pressure boilers, hot water systems and *heating plants fired by oil burners* can be *insured against interrupted service* by leakproofing with "X" Boiler Liquid before the heat is turned on.

Inspection work leads to service orders, accessory and equipment sales. Remember, that the home owner will appreciate your inspection service and that it will lead to additional profits thru good will. Don't forget apartment houses, hotels, institutions,— all appreciate being told that "X" Boiler Liquid will make a permanent repair as well as leakproof the entire system.

Use the telephone, personal calls and reminding circulars. Remember, the hustler *gets the business.* Use the order getting "X" Boiler Liquid Blotters of which we will furnish you a liberal supply without charge. Keep a carton of "X" Boiler Liquid in your shop at all times.

"X" LABORATORIES—25 West 45th St., New York, N. Y.

Order your carton from your wholesaler today

"X" LIQUID

Repairs Leaks in Steam and Hot Water Heating Systems, High and Low Pressure Boilers

PERFECTION
FLOOR and CEILING PLATES

The Original No. 10 Perfection Floor and Ceiling Plate

It's easy to do a neat job when Perfection Floor and Ceiling Plates are used. They save time too, for they snap onto the pipe instantly. Once in place, they never slip or open.

Perfection Plates can be furnished in grained oak finish.

Ask your jobber to supply you

LOOK FOR OUR CATALOG in CRANE PLUMBING & HEATING CATALOG

The
BEATON & CADWELL MFG. CO.
Established 1894
NEW BRITAIN, CONN.

American Society of Mechanical Engineers Holds 51st Annual Meeting

More than two thousand scientists, engineers, industrialists, economists and others interested in the advancements made in and problems confronting the industry, attended the fifty-first annual meeting of the American Society of Mechanical Engineers, held December 1 to 5 inclusive, at the Engineering Societies building, New York City. At the sessions, some of which were held jointly with the American Society of Refrigerating Engineers, who were also meeting in convention, a hundred or more papers were presented and discussed. The subjects varied widely, having to do with stresses, lubrication, air conditioning, combustion, power, art, generation, heating, and other problems in mechanics as they relate to the industry.

A broad entertainment program was carried out which included dinners, sightseeing trips, and theatre parties.

The evening of the second day, designated as "President's Night," was the occasion of a dinner at which President-elect Roy V. Wright was presented. Other officers formally installed on this occasion were as follows: Vice presidents: William A. Hanley, director of the engineering division of Eli Lilly & Co., Indianapolis; Thomas R. Weymouth, president of the Oklahoma Natural Gas Corp., Tulsa; Dr. Harvey N. Davis, president of Stevens Institute of Technology, Hoboken, N. J. Engineering Council: W. R. Webster, Bridgeport, Conn.; R. V. Wright, New York City; J. W. Roe, New York City; Robert Yarnall, Philadelphia; E. N. Trump, Syracuse, N. Y.; B. E. Hull, Houston, Texas; E. O. Eastwood, Seattle; W. Trinks, Pittsburgh; Warner Seely, Cleveland, and William S. Conant, Washington.

An honorary membership was conferred on Dr. Elihu Thomson, director of the Thomson Laboratory of the General Electric Co., Lynn, Mass., inventor of electric welding and holder of seven hundred patents in connection with electric lighting.

In conjunction with the convention, the ninth annual Power Show was held in Grand Central Palace during the entire week, at which were presented many devices, availing the large number of visitors examples of the developments in mechanical engineering equipment. Featured in the exposition were several types of high pressure boilers, recording and temperature control devices, coal stokers, blowers, fuel oils, pipe, tubes, valves, pumps, ventilating, refrigerating, air conditioning and power transmission apparatus, and welding displays.

Approximately four hundred manufacturers put their products on display, a few of which were unusual because of their bulk. Among those exhibiting products common to the heating industry were the following:

Aerofin Corp., Newark, N. J.; Allen-Bradley Co., Milwaukee, Wis.; Allen & Billmyre Co., Inc., New York, N. Y.; Allen-Sherman Hoff Co., The, Philadelphia, Pa.; Allpax Co., Inc., The, Mamaroneck, N. Y.; American Blower Corp., New York, N. Y.; American Brass Co., The, Waterbury, Conn.; American Engineering Co., Philadelphia, Pa.; American Flexible Coupling Co., New York, N. Y.; American Gas Assn., New York, N. Y.; American Propeller Co., Baltimore, Md.; American Radiator Co., New York City; American Society of Heating and Ventilating Engineers, New York, N. Y.; American Society of Mechanical Engineers, The, New York, N. Y.; American Water Softener Co., Philadelphia, Pa.; American Steam Automobile Co., Newton, Mass.; Ames Pump Co., Inc., New York, N. Y.; Amthor Testing Instrument Co., Inc., Brooklyn, N. Y.; Anaconda Copper Mining Co., New York, N. Y.; Andale Co., Philadelphia, Pa.; Armstrong Machine Works, Three Rivers, Mich.; Armstrong Steam Trap Co., Three Rivers, Mich.; Ashton Valve Co., Boston, Mass.; Associated Alloy Steel Co., Cleveland, O.; Atwood & Morrill Co., Salem, Mass.; Automatic Switch Co., New York, N. Y.

Babcock & Wilcox Tube Co., The, Beaver Falls, Pa.; Babcock & Wilcox Co., New York, N. Y.; Badger, E. B., & Sons Co., Boston, Mass.; Barco Mfg. Co., Chicago, Ill.; Barnes & Jones, Boston, Mass.; Belfield, H., Co., Philadelphia, Pa.; Bernitz Furnace Appliance Co., Boston, Mass.; Black & Decker Mfg. Co., Towson, Md.; Bonney Forge & Tool Works, Allentown, Pa.; Borden Co., The, Warren, O.; Botfield Refractories Co., Philadelphia, Pa.; Bradley Washfountain Co., Milwaukee, Wis.; Breuer Elec. Mfg. Co., Chicago, Ill.; Bristol Co., The, Waterbury, Conn.; Brown Instrument Co., The Philadelphia, Pa.; Buffalo Forge Co., Buffalo, N. Y.; Building Specialties Co., Inc., Brooklyn, N. Y.; Bundy Steam Trap Co., Nashua, N. H.

Carborundum Co., Perth Amboy, N. J.; Carrier Engineering Corp., Newark, N. J.; Carrier-Lyle Corp., Newark, N. J.; Cash, A. W., Co., Decatur, Ill.; Centrifix Corp., Cleveland, O.; Chapman Valve Mfg. Co., The, Indian Orchard, Mass.; Chicago Pipethread Mach. Co., Racine, Wis.; Chicago-Wilcox Mfg. Co., Chicago, Ill.; Clements Mfg. Co., Inc., Chicago, Ill.; Cochrane Corp., Philadelphia, Pa.; Combustion Engineering Corp., New York, N. Y.; Crandall Packing Co., Palmyra, N. Y.; Crane Packing Co., Chicago, Ill.; Crosby Steam Gage & Valve Co., Boston, Mass.

Dampney Co. of America, The, Boston, Mass.; Dearborn Chemical Co., Chicago, Ill.; DeBothezat Impeller Co., Inc., New York, N. Y.; D'Este, Julian, Co., Boston, Mass.; Detroit Seamless Steel Tubes Co., Detroit, Mich.; Diamond Power Specialty Corp., Detroit, Mich.; Dri-Steam Valve Sales Corp., New York, N. Y.; Dunn, Struthers, Inc., Philadelphia, Pa.

Eastern Refractories Co., Boston, Mass.; Economy Lubricating Co., Charlestown, Mass.; Electro Anti-Corrosive Corp., New York, N. Y.; Ellison Draft Gage Co., Chicago, Ill.; Engineering Publications, Inc., Chicago, Ill.; Ernst Water Column & Gauge Co., Newark, N. J.; Everlasting Valve Co., Jersey City, N. J.

Fairbanks Co., The, New York, N. Y.; Federal Gauge Co., Chicago, Ill.; Foster Wheeler Corp., New York, N. Y.; Foxboro Co., The, Foxboro, Mass.; Fuller-Lehigh Co., Fullerton, Pa.; Fulton-Sylphon Co., The, Knoxville, Tenn.

Garlock Packing Co., The, Palmyra, N. Y.; General Electric Co., Schenectady, N. Y.; General Insulating & Mfg. Co., Alexandria, Ind.; Gillis & Geoghegan, Inc., New York, N. Y.; Green Fuel Economizer Co., The, Beacon, N. Y.; Greenfield Tap & Die Corp., Greenfield, Mass.; Grinnell Co., Providence, R. I.; Griscom-Russell Co., The, New York, N. Y.

Hanson Whitney Machine Co., Hartford, Conn.; Harbison-Walker Refractories Co., Pittsburgh, Pa.; Hartzell Propeller Fan Co., Piqua, O.; Hays Corp., Michigan City, Ind.; Heating, Piping and Air Conditioning, Chicago, Ill.; Hedges-Walsh-Weidner Co., Chattanooga, Tenn.; Hill, E. Vernon, Co., Chicago, Ill.; Hitchcock Co., Boston, Mass.; Huyette, Paul B., Co., Inc., Philadelphia, Pa.

Illinois Engineering Co., Chicago, Ill.; Instant Water Heater Sales Div., Chicago, Ill.; International Combustion Engr. Corp., New York, N. Y.; International Nickel Co., Inc., The, New York, N. Y.; Iron Fireman of New York, Inc., Portland, Ore.

Janette Mfg. Co., Chicago, Ill.; Jarecki Mfg. Co., Erie, Pa.; Johns-Manville Corp., New York, N. Y.

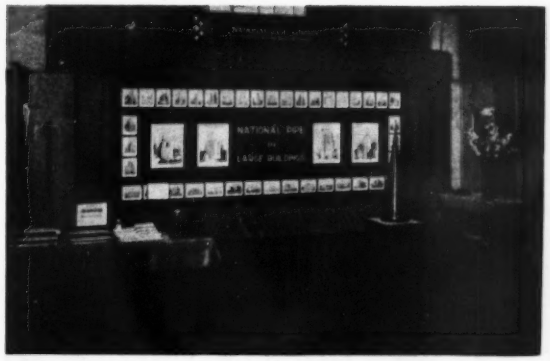


Exhibit of National Tube Co., Pittsburgh, Pa., at the Boston convention, National Association of Master Plumbers

COPPER TUBE FITTINGS

Copper Tube Plumbing with M. I. F. Copper Tube Fittings cut time wasting shop work out entirely.

There is nothing for you to do but take your equipment right to the job and do the work.

This means that your overhead is greatly reduced. There is no special equipment or material for you to buy and to lay idle with consequent money tie-up in times of slack.

Get in the Copper Plumbing line to profits now. And don't forget, M. I. F. Copper Tube Fittings will help you do better work.

ASK YOUR JOBBER
TO SUPPLY YOU

M|F

MALLEABLE IRON FITTINGS CO.
BRANFORD, CONN.

Kaye & MacDonald, Inc., West Orange, N. J.; Keasbey & Mattison Co., Ambler, Pa.; Keating Pipe Bending Co., E. F., The, New York, N. Y.; Keeler, E., Co., Williamsport, Pa.; Kellogg, M. W., Co., The, New York, N. Y.; Kennedy-Van Saun Mfg. & Engr. Corp., New York, N. Y.; Keystone Refractories Co., New York, N. Y.; Kidde, Walter & Co., New York, N. Y.; Kieley & Mueller, Inc., New York, N. Y.; Kilsoot Carbocide Co., Inc., The, New York, N. Y.; "Klingerit," Inc., New York, N. Y.; Kohlmeier, J. M., Inc., Long Island City, N. Y.; Korfund Co., Inc., The, New York, N. Y.; Kraissl Co., The, New York, N. Y.

LaBour Co., The, Elkhart, Ind.; Lead Lined Pipe Co., Wakefield, Mass.; Leeds & Northrup Co., Philadelphia, Pa.; Leslie Co., Lyndhurst, N. J.; Limitorque Corp., The, New York, N. Y.; Linde Air Products Co., The, New York, N. Y.; Link Belt Co., Chicago, Ill.; Liquidometer Corp., The, L. I. C., New York.

McAvoy Products Co., Chicago, Ill.; Manistee Iron Works Co., New York, N. Y.; Marsh, Jas. P., & Co., Chicago, Ill.; Mason Regulator Co., Boston, Mass.; Mercoid Corp., The New York, N. Y.; Midwest Piping & Supply Co., New York, N. Y.; Millers Falls Co., New York, N. Y.; Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.; I. P. Morris & DeLa Vergne, Inc., New York City; Moto-Meter Gauge & Equip. Corp,. Toledo, O.; Multi-Valve Corp., The, New London, Conn.

Nash Engineering Co., South Norwalk, Conn.; Neemes Foundry, Inc., Troy, N. Y.; Nicholson, W. H., & Co., Wilkes-Barre, Pa.; Northern Equipment Co., Erie, Pa.; Norton Co., Worcester, Mass.; Nye Tool & Machine Works, The, Chicago, Ill.

Oakite Products, Inc., New York, N. Y.; Obermayer, S., Co., The, Chicago, Ill.; Oxweld Acetylene Co., New York, N. Y.

Parker Appliance Co., The, Cleveland, O.; Peerless Machine Co., New York, N. Y.; Permutit Co., The, New York, N. Y.; Plibrico Jointless Firebrick Co., Chicago, Ill.; Prat-Daniel Corp., New York, N. Y.; Preferred Utilities Co., Inc., New York, N. Y.; Pressure Snubber Co., Charlotte, N. C.

Quimby Pump Co., Inc., New York, N. Y.

Radiator Specialty Co., Charlotte, N. C.; Rawlplug Co., New York, N. Y.; Ray Burner Co., San Francisco, Calif.; Refractory & Engineering Corp., New York, N. Y.; Reliance Elec. & Engr. Co., Cleveland, O.; Reliance Gauge Column Co., Cleveland, O.; Republic Flow Meters Co., Chicago, Ill.; Riley Stoker Corp., Worcester, Mass.; Robinson, John R., New York, N. Y.; Rome Brass Radiator Corp., New York, N. Y.

Sarco Co., Inc., New York, N. Y.; Schade Valve Mfg. Co., Philadelphia, Pa.; Schwitzer-Cummins Co., Indianapolis, Ind.; Scovill Mfg. Co., Waterbury, Conn.; Smith & Serrell, Newark, N. J.; Sowdon, W. K., Co., Inc., New York, N. Y.; Stanley Electric Tool Co., Inc., The, New Britain, Conn.; Staynew Filter Corp., Rochester, N. Y.; Steamaker Co., Brooklyn, N. Y.; Stockham Pipe & Fittings Co., Birmingham, Ala.; Superheater Co., The, New York, N. Y.; Swartwout Co., The, Cleveland, O.

Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.; Taylor Instrument Companies, Rochester, N. Y.; Templeton Steam Trap Co., New York, N. Y.; Thomas Grate Bar Co., Birmingham, Ala.; Time-O-Stat Controls Co., Elkhart, Ind.; Toledo Pipe Threading Mach. Co., The, Toledo, O.; Torchweld Equipment Co., Chicago, Ill.

Uehling Instrument Co., Paterson, N. J.; U. S. Electrical Tool Co., The, Cincinnati, O.

Van Dorn Electric Tool Co., Towson, Md.; Vogt, Henry, Mach. Co., Louisville, Ky.; Vulcan Soot Cleaner Co., The, DuBois, Pa.

Wailes-Dove-Hermiston Corp., New York, N. Y.; Walworth Co., Boston, Mass.; Watts Regulator Co., Lawrence, Mass.; Warren Webster & Co., Camden, N. J.; Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.; Wing, L. J., Mfg. Co., New York, N. Y.; Wolverine Tube Co., New York, N. Y.; Wright-Austin Co., Detroit, Mich.; Wright Mfg. Co., Bridgeport, Conn.

Yarnall-Waring Co., Chestnut Hill, Philadelphia, Pa.; York Heating & Ventilating Corp., Div., Philadelphia, Pa.; Youngstown Sheet & Tube Co., Youngstown, O.

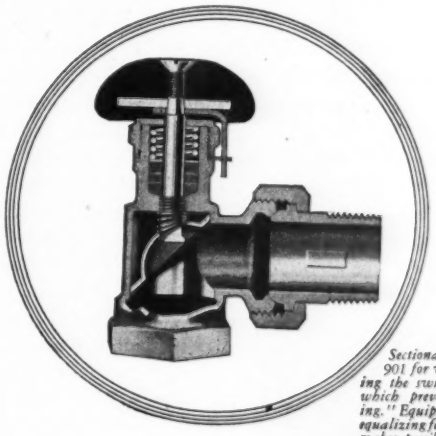
◆

To Donate Plumbing Work for Charity

The Milwaukee Master Plumbers' Association has voted to donate the plumbing work for a building being remodeled in Milwaukee for the use of charity during the winter. The charitable move is sponsored by the Good Fellow organization of the Milwaukee Journal and various organizations, including the public utilities, are co-operating in the plan. Plumbing supply men of the city have voted to donate the plumbing materials also. The cost to both the plumbing organization and the supply men will approximate several hundreds of dollars.

The plan is to remodel a building formerly housing the Milwaukee Journal at 184 Fourth Street.

13 CONTRACTORS
(OF COLUMBUS)
standardize on
ARCO PACKLESS
RADIATOR VALVES



Sectional view of No. 901 for water, showing the swinging plate which prevents "sticking." Equipped with the equalizing feature which makes possible "balancing" of the flow, after installation.

Return trips to repack leaking radiator valves not only cost you money and time, but owners blame you for a faulty installation.

When you install Arco Packless Valves you are insuring not only your profits but your reputation as well, and you add less than the expense of one trip to the cost of the job. That is why, in the city of Columbus alone, there are 13 contractors who use Arco Packless Valves regularly on all jobs.

●

Standardize on Arco Packless
No. 999 for Steam No. 901 for Water
A complete line of Packless Valves for steam, water, vapor or vacuum. Made in Angle, Corner, Globe and Gate patterns

AMERICAN RADIATOR COMPANY
DIVISION OF
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION
40 WEST 40TH STREET, NEW YORK

ARCO ACCESSORIES MAKE ANY HEATING PLANT BETTER

Business Personals

MATT GLYNN has been appointed representative for the Blake Specialty Co. of Rock Island, Ill., in Louisiana, Mississippi and southern Alabama, with headquarters in New Orleans. Mr. Glynn has had a number of years of sales experience in selling plumbing and heating material.

WALTER J. KOHLER, of Kohler, Wis., governor of Wisconsin, entertained Rear Admiral Richard E. Byrd at his home on the outskirts of the village. Rear Admiral Byrd gave a brief talk to a crowd of 2,000 in the Kohler recreation hall, and also spoke before the children of the Kohler schools.

L. C. LA FLEUR has become financially interested in the Germain Manufacturing Co., Saginaw, Mich., and has been appointed vice president and general sales manager of the company. Mr. La Fleur was formerly associated with Wm. Heap & Sons, Grand Haven, Mich. He has been associated with the plumbing industry for the past twenty-nine years and has a wide acquaintance in the field.

Ray M. Stackhouse

RAY M. STACKHOUSE has been appointed general sales manager of the Federal Pipe and Supply Co., of Chicago. Mr. Stackhouse was for many years associated with the American Radiator Company in various capacities. Prior to joining the Federal Pipe and Supply Co., he was Chicago branch manager for the American Radiator Co. He had also served as branch manager for the company at Kansas City, Mo., and later at Cleveland, Ohio. Mr. Stackhouse is a member of the American Society of Heating and Ventilating Engineers, Illinois Chapter.

H. M. BRIGHTMAN, who until recently has been Providence district manager for the C. A. Dunham Company of Chicago, has taken over the Boston sales office for that company. Mr. Brightman will continue in charge of the Providence territory. He has headquarters in Boston at 10 High street.

J. B. DOWNEY has been appointed district sales representative in the state of Arizona for the Dayton-Dowd Company, Quincy, Ill. Mr. Downey will make his headquarters at 2944 North Second street, Phoenix, Arizona.

W. H. CLARK has joined the organization of the Mills Engineering Sales Co., 10 Hight street, Boston, Mass. Mr. Clark is engaged in the sales promotion of washfountains and showers, electric heating equipment, centrifugal and reciprocating pumps, compressors and condensers, products handled by the company.

E. W. SANBORN, 43 E. Ohio street, Chicago, has been appointed district manager of pipe sales in Chicago for the Pittsburgh Tube Company, Pittsburgh, Pa. He will have charge of the company's business in Illinois, Wisconsin, Missouri, Minnesota and Iowa.

R. W. Thompson

R. W. THOMPSON has been appointed director of public relations of the Reading Iron Co., Reading, Pa. Mr. Thompson will also continue in the capacity of advertising manager, manager of cut nail sales, and manager of sales for the Stoyestown Coal Mines, a soft coal property owned and operated by the Reading Iron Company.

A. M. CULLOM resigned his position as oil country sales manager of the Reading Iron Company, with headquarters at Tulsa, Okla., effective December 1. Mr. Cullum has been associated with the Reading Iron Company for the past ten years, starting as a clerk at the Roe puddling plant. He has assumed a position with the Harbison and Walker Refactories Company, Pittsburgh.

◆

San Francisco P. and H. Club Plans Big Golf Tourney and Christmas Jinks

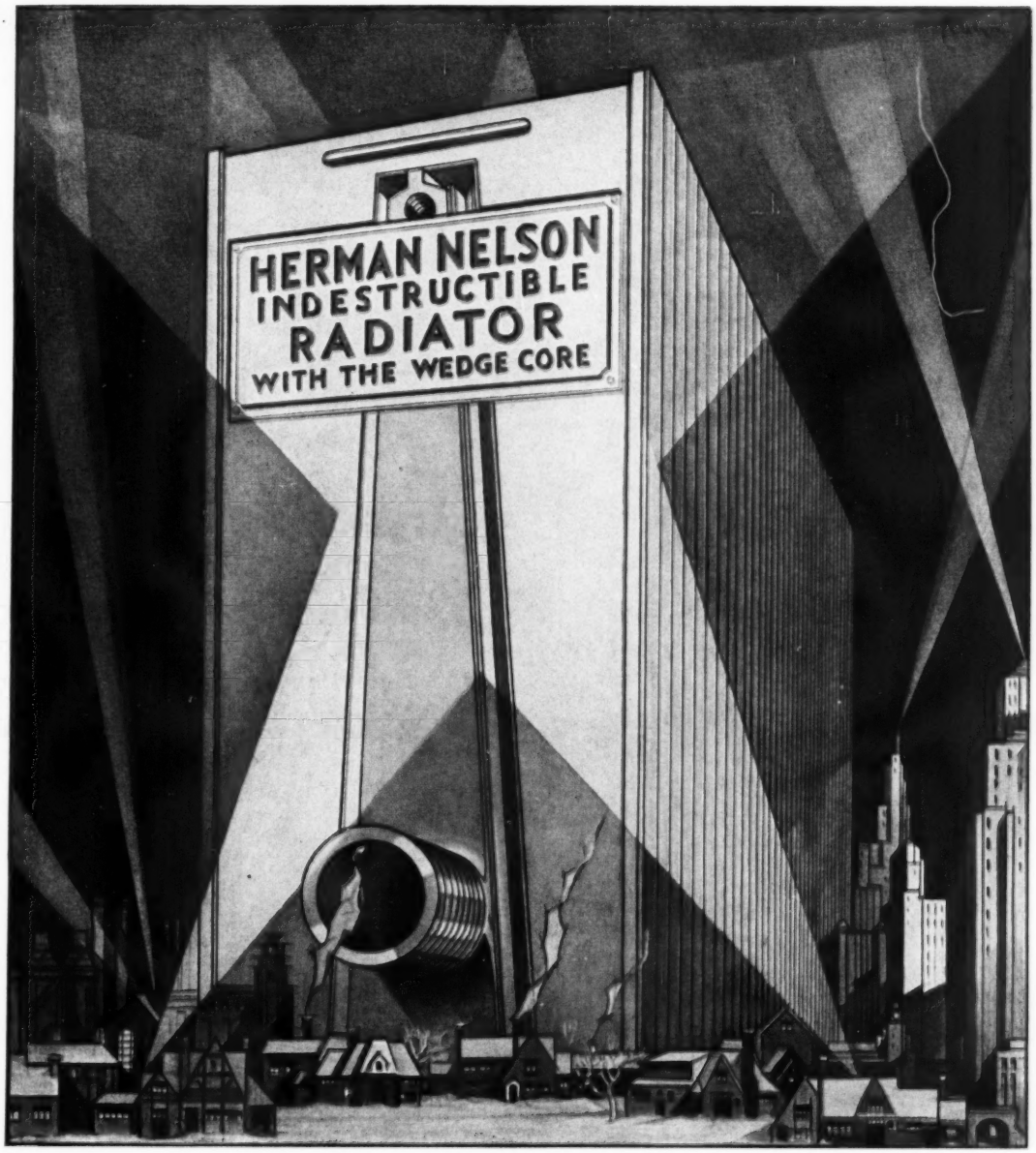
One of the reddest of red letter days for the members of the Plumbing and Heating Club of San Francisco (Calif.) and the Bay Cities, and their guests, will be Thursday, December 19, when this organization will gather at the Lake Merced Golf and Country Club. There will be two attractions—the December golf tournament and the regular Christmas jinks.

Golfers will tee off at one o'clock, and when the last scorecard has been turned in the banquet will be served, followed by a giant mass meeting and jollification. Fully as many non-golfers as those who will take part in the tourney are expected to be on hand for the dinner jinks. According to Robert Allmon, chairman of the golf committee, preparations have been made for an attendance of 200.

◆

Constructs Bathing Beach

Herman R. Kuehner, head of H. R. Kuehner Co., Laurel Springs, N. J., and at one time associated with Thomas Maddock's Sons Co., Trenton, N. J., this summer had a public bathing beach with diving boards, a toboggan, slide and ring swings, built on Laurel Springs Lake adjoining his home. He had a sandy beach constructed and the shore landscaped to add to the attractiveness of the spot. The facilities paid for by Mr. Kuehner are free to the public.



OUR CONTRIBUTION TO THE ART OF HEATING AND VENTILATION

The Herman Nelson Wedge Core Radiator is an exclusive feature of all Herman Nelson Heating and Ventilating Products and accounts for their satisfactory performance. + + + +

THE HERMAN NELSON CORPORATION MOLINE ILLINOIS

BEHIND THAT GRILLE IN THE WALL

It is an unchallenged fact that the Herman Nelson Invisible Radiator is helping heating contractors get quality contracts. It has met such complete approval of builders, architects and engineers that it is being specified for thousands of the finer jobs.

The radiator, remarkably light and compact, has no joints of any kind to fail and leak — no parts that can rust or get out of order. It comes enclosed in a scientifically designed steel case which fits in any standard wall or partition. In houses and smaller buildings it may be plastered over. For larger and taller buildings, a removable panel is provided, permitting access to control valves, traps and all connections. A graduating damper affords instant control of heat output at grille.

Why not key your business to this new trend in heating? Let the Herman Nelson Invisible Radiator carry you out of the range of price shooting competition. Write for our engineering data book and full information.

THE HERMAN NELSON CORPORATION, *Moline, Ill.

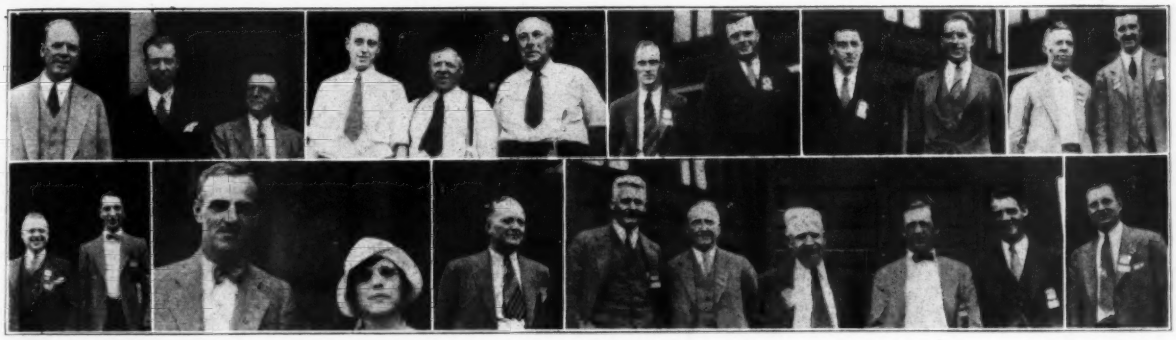
There's a radiator that says... "This home is modern"

© 1930 T. H. N. Corp.

HERMAN NELSON *Invisible* RADIATOR

BELFAST, ME.
BOSTON
SPRINGFIELD, MASS.
PROVIDENCE, R. I.
NEW YORK CITY
SYRACUSE
ALBANY
BUFFALO
PHILADELPHIA
SCRANTON
HARRISBURG
PITTSBURGH
JOHNSTOWN, PA.
WASHINGTON, D. C.
CHARLOTTE, N. C.
GRAND RAPIDS
SAGINAW, MICH.
FLINT, MICH.
DETROIT
CLEVELAND
CINCINNATI
TOLEDO
LOUISVILLE
INDIANAPOLIS
CHICAGO
PEORIA, ILL.
DES MOINES
MILWAUKEE
GREEN BAY
MINNEAPOLIS
DULUTH
ST. LOUIS
BIRMINGHAM
ATLANTA
NEW ORLEANS
MEMPHIS
DALLAS
OMAHA
EMPORIA, KAN.
KANSAS CITY
TULSA, OKLA.
DENVER
SALT LAKE CITY
BUTTE, MONT.
SPOKANE
PORTLAND, ORE.
SEATTLE
SAN FRANCISCO
VANCOUVER
TORONTO
WINNIPEG, MAN.
CALGARY
LONDON
OSLO
MELBOURNE
TOKIO, OSAKA

*Makers of the *Herman Nelson Invisible Radiator*, for residences, apartments, hotels, offices and monumental structures—the *Univent*, for the ventilation of schools, offices, churches and all buildings having an acute ventilating problem—the *Herman Nelson hi-fet Heater*, for economical distribution of heat in factories, mills, garages, warehouses, and smaller buildings.



Top row: W. F. Morris, J. L. Morris, V. O. Mitchell, all of The Sands Mfg. Co., Boston office; R. T. Chelstrom, H. Zuerl, Robert Chelstrom, all of the Oster Mfg. Co. and the Williams Tool Corp.; H. L. Owen, H. E. Voges, both of the J. H. Balmer Co., Newark, N. J.; L. F. Hanson and C. B. Hanson, both of Quick Products Corp, Newark, N. J.; R. S. Patten and George F. Newman, both of Turner Brass Works, Sycamore, Ill. Bottom row: Chester Bess, J. F. Gunther, both of Pittsburgh Valve & Fittings Co., Barberton, Ohio; Mr. and Mrs. Leslie C. Burns, New Brunswick, N. J.; R. W. Houck, J. A. Sexauer Mfg. Co., New York; W. H. Taylor and David Smythe, both of Central Tube Co., Pittsburgh, Pa.; B. D. Armstrong, of Ketl Products Co., Columbus, Ohio; A. C. Riordan and Thomas Wheeler, Jr., both of Enterprise Mfg. Co., Cambridge, Mass.; L. R. Parrish, New York manager of the Westco Chippewa Pump Co., Davenport, Iowa. Photos taken at the Boston convention of the N. A. M. P.

Philadelphia Plumbsteam Club Holds Meeting

The November meeting of the Plumbsteam Club of Philadelphia was held Friday evening, November 21st, at the Sylvania Hotel.

In the absence of President Harry Walther, Secretary C. Knight presided over the business meeting following the dinner. After routine business of the club was transacted, the major discussion of the evening was the status of the National Association of Plumbing and Heating Salesmen.

National President W. W. Morgan outlined his activities explaining his reasons why he had deemed it inadvisable to hold a national meeting which, according to the by-laws, was supposed to have been held in May. He further outlined the difficulties he encountered in obtaining co-operation from the various chapters.

E. Wendling, J. Lawler and Ted Reichmann of the New Jersey Chapter No. 1, and E. Smith of the New York Chapter, guests of the Plumbsteam Club, all expressed the feeling existing in their respective chapters regarding the affairs of the national body.

◆

Will Head New Smoke Abatement Bureau

William G. Christy, mechanical engineer of the board of education of St. Louis, Mo., has been appointed engineer in charge of the newly organized Smoke Abatement Bureau of Hudson County, New Jersey. The Smoke Abatement Bureau will be a new department of the board of health of Hudson County.

The smoke campaign will be conducted in co-operation with Stevens Institute of Technology at Hoboken, where Colonel Elliott H. Whitlock, for the past six years smoke commissioner of Cleveland, Ohio, has been appointed to the chair of smoke abatement research. Colonel Whitlock will co-ordinate all smoke activities in various counties and municipalities of New York, New Jersey and Connecticut with the smoke abatement campaign in New York City.

As chairman of the St. Louis section, American Society of Mechanical Engineers, Mr. Christy, in February, 1926, was active in the organization of the Citizens' Smoke Abatement League of St. Louis. For two years he was executive secretary of the Smoke Abatement League, having charge of the most comprehensive smoke campaign in the United States. He was also active in the organization of the campaign to raise $250,000 by popular subscription to carry out a three-year smoke abatement program in St. Louis.

◆

New York Chapter Hears National Officers

"Utilization of the Sun's Energy" and "Effect of Solar Radiation on Heating and Air Conditioning Problems" were the respective subjects of discussion by L. A. Harding, president of the American Society of Heating and Ventilating Engineers, and F. B. Houghten, director of the research laboratory of the society, given before the New York Chapter at its monthly meeting, held November 17 in the Building Trades Club, New York City.

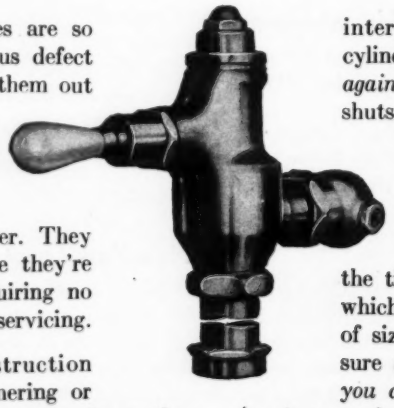
President Harding, by means of sketches and curve plots thrown on a screen with the aid of a lantern, described the many experiments made to absorb energy from the sun from the time in 1780 when de Saussres developed his "Hot Box" to the "Shuman Absorber" developed in Egypt just prior to the World War, and also those tests that are now being made in the Gulf Stream and in the Arctic Circle. These experiments of concentrating the rays of the sun, President Harding explained, have successively resulted in the means of increasing generated horse power. Each, he indicated, embraced similar principles.

Mr. Houghten, in introducing his subject, stated that the Pittsburgh Chapter is going to great lengths to make the next annual meeting, which is to be held in that city, interesting. The society's laboratory and the research work will occupy the members one whole day. His subject, also given with the aid of stereopticon views, went into that phase of laboratory work that had to do with the heat of the sun flowing into buildings and the heat flow outward from the inside. Terming this as one of the most important subjects for study, Mr. Houghten said that a meter was used to establish accuracy of the laboratory findings in actual practice and to prove that old calculations were off from 200 to 400 per cent. The

FLUSH VALVES THAT ARE IN TO STAY

—and that stay as they are put in!

This means REAL satisfaction, both to plumber and user.



SCOVILL Flush Valves are so constructed that no serious defect will ever crop up to put them out of order or to prevent their perfect functioning.

For you, they not only install better and work better, but they pay better. They "go in" quickly, and once they're in, they're in to stay, requiring no costly extra time in after-servicing.

Their plunger type construction prevents sputtering, hammering or clogging. Through a by-pass down the center of the valve there runs a phosphor bronze rod which is suspended from the valve cap. Each time the valve is operated this rod acts as a cleaner, forcing out scale, dirt or foreign matter which may come in through the intake with the water. Long bearing surfaces on the plunger cause it to ease gently, yet steadily and without interruption of motion, down the cylinder walls to its seat. Working *against* the water pressure, the valve shuts off smoothly and prevents water hammer. Regulation of flush and flow can be governed from the *outside* of the valve —a great advantage which permits final adjustment at the time of installation—adjustment which is frequently necessary because of sizes of water supply pipes, pressure and length of flush. *After this, you can forget about the valves, for they stay—and work—just as they were put in!*

Send for Scovill catalog which tells more of these and other Scovill profit-getters. Learn now how these profits can be yours!

—and KNIT-WICK (plumbers' lamp wick knitted into gasket form) will save you time and trouble on many a joint. Waterproofed, preserved, graphiled. The best wicking you can buy. Be sure to remember KNIT-WICK.

SCOVILL MANUFACTURING CO.
Plumbers' Brass Goods Division
Waterville Conn.

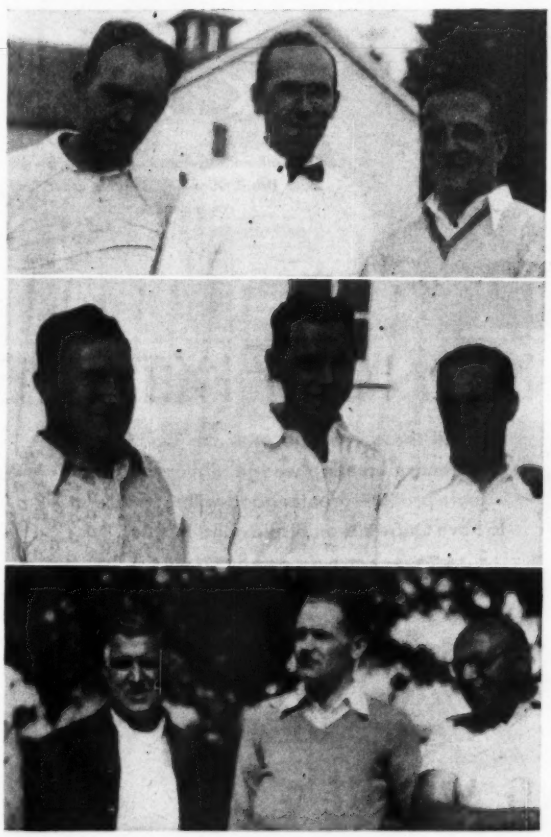
SCOVILL

Flush Valves ~ Shower and Bath Fixtures ~
Tubular and Miscellaneous Plumbers' Brass Goods
A COMPLETE LINE

log of conditions set forth in curves represented the amounts of the sun rays absorbed through roofs of different constructions, surfaces, and varying wind velocities. Slides showing the errors of the old method, the speaker said, were convincing evidence of the necessity of considering the time and character of the area to be air conditioned.

The meeting, to which all past presidents were invited, was marked by the attendance of twelve of the sixteen that are living. L. L. Lewis, of the special committee appointed for the purpose, through President Harding, presented each with a silver cigarette humidor suitably inscribed. The past presidents present were: Frank McCann, W. H. Driscoll, Arthur Ritter, S. H. Seward, Perry West, W. L. Fleisher, A. S. Armagnac, A. A. Adler, R. H. Carpenter, R. A. Wolff, H. B. Hedges and E. J. Richie. Mr. McCann, dean of the group, offered an expression of deep appreciation for himself and his fellow former presidents.

Alfred J. Offner, president of the chapter, presided and introduced C. W. Farrar, treasurer of the society, who is also chairman of the membership committee. Mr. Farrar offered ten suggestions through which the membership can be enlarged. These included associate members, engineering students, fellow engineers, heat-

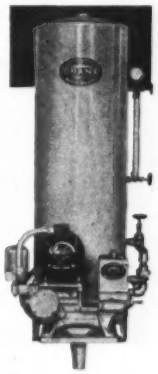


Top row: Charles Bick, J. J. McLaughlin, F. Canade. Middle row: H. R. Rose, president, Coast Supply Co.; G. McCormack, Guarantee Plumbing Co.; A. S. Foster, National Electric Products. Bottom row: Fred Allen, Trenton Potteries Co.; H. P. Smith, Standard Sanitary Mfg. Co.; George Warner, Warner & Dessau, Inc. Photos taken at the meet of the Plumbing Industry's Golf Association of New York

1855 · SEVENTY-FIFTH ANNIVERSARY · 1930

Running water pays the farmer..AND YOU

You can sell the comfort of running water with the strongest selling argument of all . . . *it pays.* Far beyond the small cost, it increases the yield of stock, saves labor, betters health for man and animals. You can sell Crane Automatic Water Systems to supply running water to home and barns with exactly the same argument . . . *they pay better than any others.* They need fewer repairs, last longer, require less attention. Especially they pay you, for every one means a satisfied customer who sells others. Ask the nearby Crane Branch for all selling information, and sell them under the Crane Budget Plan for only $5 to $14 down, the balance monthly.



Crane Shallow Well System No. 254-A. 250 gallons an hour capacity. Pumps from depths down to 22 ft. Other Crane shallow and deep well systems meet virtually all situations as to well depths and water needs

CRANE

PLUMBING AND HEATING MATERIALS

CRANE CO., 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

Branches and Sales Offices in One Hundred and Ninety-six Cities

PRIZEWINNERS OF DOLE VALVE CONTEST

Judges for this second in the series of six coloring contests, conducted by The Dole Valve Company, 1923 Carroll Ave., Chicago, were—*Editor of Domestic Engineering; Representative of the Plumbers Trade Journal;* Two artists—*Mr. Ellsworth Young* and *Mr. Edw. T. Grigware.*

Two more coloring contests will appear in the pages of this magazine between now and February, 1931, and hundreds of cash prizes will be awarded.

Also an extra cash prize of $100 for the best series of six submitted in accordance with the rules.

The contest is open to anyone, anywhere.

FIRST PRIZE, $50.00
Henry K. Schiff
12 Leslie St.
Newark, N. J.

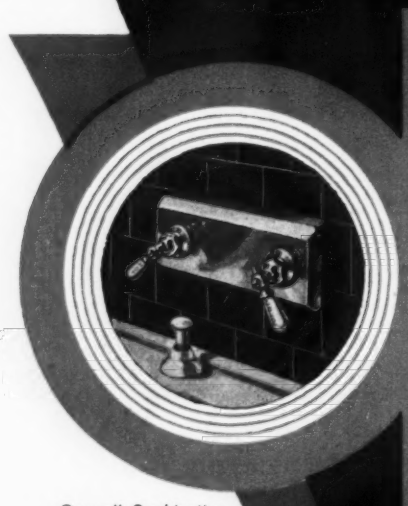
SECOND PRIZE, $25.00
June Fosler
4152 Brookside Rd.
Toledo, Ohio

THIRD PRIZE, $15.00
Joy Chevalier
3315 E. Tenth St.
Long Beach, Calif.

FOURTH PRIZE, $10.00
Mabel Arnold
28 Taft St.
Edgewood, R. I.

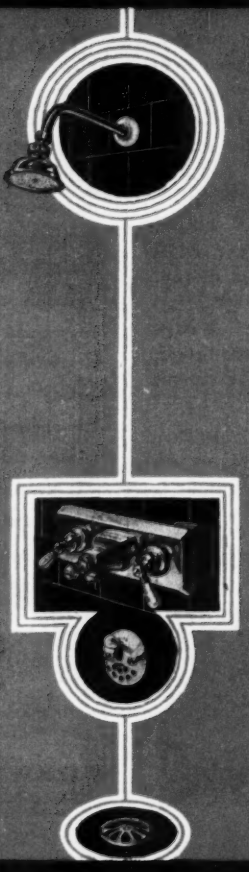
CONSOLATION PRIZE AWARDS — $1.00 EACH
Barbace Arnold
28 Taft St.
Edgewood, R. I.
Mabel L. Bierfeldt
237 Ferry St.
Everett, Mass.
Ranice W. Birch
519 E. 30th St. N.
Portland, Oregon
Lucille Bonkopky
R. 4
Frankfort, Ky.
Peggy Burns
504 North Main St.
Wallingford, Conn.
Lillian Chase
Box 82,
Wenham, Mass.
Clifford Chivers
389 Lincoln Rd.
Walkerville, Canada
Marjorie J. Cool
Box 63
Gaines, Michigan
L. M. Couture
1016 Marquette Ave.
Bay City, Mich.
Wilma E. Dimpelfeld
826 Browns Ave.
Erie, Pa.
Ines L. DuBois
357 Walnut St.
Manchester, N. H
Darline Dufley
928 Timberman Rd.
Columbus, Ohio
Irene F. Farnum
234 Riverhead St.
Athol, Mass.
Grace Wilma Fitch
84 Western Ave.
Brattleboro, Vt.
Marjorie F. Gibbins
638 Porter St., N. E.
Warren, Pa.
Mrs. Fred Hart
208 Hart St.
Cairo, Ga.
Ruth Hempel
8120 Durand St.
Detroit, Mich.
Pauline R. Hill
184 Whitman St.
New Bedford, Mass.
Richard H. Hill
Box 79, R. R. 1
Toronto, Canada
Annabel Hodges
139 Dalzell St.
Shreveport, La.
Claire A. Hvarven
1308 Florence Ave.
Galesburg, Ill.
Helena C. Hyde
90 Shipwright St.
Annapolis, Md.
Chestine Kendall
Box 169
Jacksonville, Ill.
Frances Kirwan
374 Manhattan Ave.
Union City, N. J.
Evelyn W. Knox
100-53 210 St.
Bellaire, L. I., N. Y.
Marie H. Kolessar
9 Palmer St.
Bloomfield, N. J.
L. C. Lynch
Cherokee, Iowa
Viola E. McDonald
319 Raleigh Ave.
Sheffield, Ala.
Mae McNerney
1113 Wyandotte St.
Kansas City, Mo.
Shirley Manning
Cherry St.
Wenham, Mass.
Walter Monselle
528 E. Warnock St
Louisville, Ky.
Marie F. Mulgrew
20 River St.
Arlington, Mass.
H. Lucille Nelson
594 S. Smith Ave.
St. Paul, Minn.
Miss Nolan
98 Madison Ave.
Albany, N. Y.
Agnes E. Olson
Route 1, Bx. 218
Lakewood, Minn.
Dorothy Patrick
20 Fordham Drive
Buffalo, N. Y.
Jane Reboli
549 52nd St.
Oakland, Calif.
Geneva Rigsby
1625 Cleveland St.
Augusta, Ga.
Myrtle D. Salsbury, Box 129
Greene, Iowa
Leta G. Sanborn
Cherokee, Iowa
Elmer F. Schwenck
821 Hilligrove Ave.
LaGrange, Ill.
Mildred C. Schwenck
821 Hilligrove Ave.
LaGrange, Ill.
Leslie W. Scott
525 S. Harvey Ave.
Oak Park, Ill.
Ethel P. Scott
114 Bassett Court
Lexington, Ky.
Mrs. H. S. Searle
607 Coombs St.
Napa, Calif.
Lonnie L. Stephenson
2627 Darien St.
Shreveport, La.
Ernestine Tinsley
98 Warren St., S. E
Atlanta, Ga.
Maggie J. Trisler
507 North East St.
Kewanee, Illinois
Walter E. Westfahl
4728 Center St.
Milwaukee, Wis.
Harry M. Zepp, Jr.
89 Liberty St.
Westminster, Md.

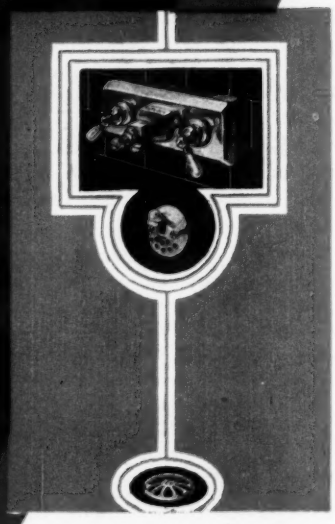
THE ENTERING WEDGE



Onawall Combination Lavatory Fixture with concealed spout

(Right) Onawall Bath and Shower Fixture with the Trip Lever Drain.





Onawall Bath Fixture, with the Trip Lever Drain. Also available in other combinations.

A BUSINESS-WINNING FIXTURE

Introduced eleven months ago, Onawall has definitely proven that it *is* a business-winning fixture. ✣ Originality and beauty of design; rich, permanent finish; high standards in craftsmanship and materials; ON THE WALL principle that cuts installation cost— all these combine to Make Onawall an effective entering wedge to more jobs—more profits—greater good-will. ✣ Be sure to have Onawalls on display and in stock.

THE REPUBLIC BRASS COMPANY
1623 East 45th Street · Cleveland, Ohio

ONAWALL

THE ENTERING WEDGE TO MORE JOBS MORE PROFITS

REPUBLIC BRASS GOODS

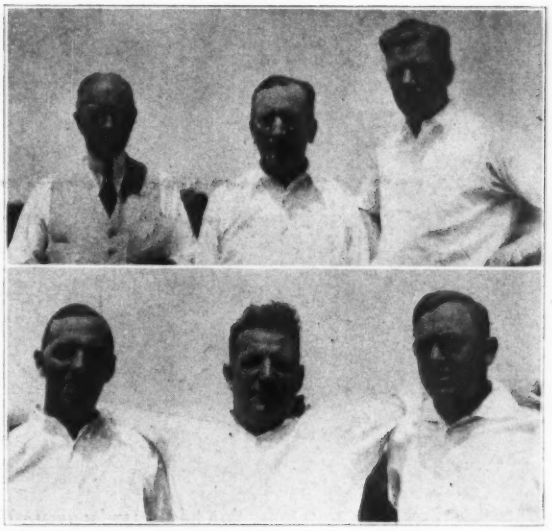
ing and ventilating specification writers, small manufacturers of heating and ventilating products, city engineers, heating contractors, heating and ventilating department heads of wholesale plumbing and heating houses, engineers in smaller towns, and professors of engineering.

◆

A. S. M. E. Elects Officers

Roy V. Wright of New York has been elected president of the American Society of Mechanical Engineers. Mr. Wright, who succeeds Charles Piez of Chicago, was chosen by mail ballot of the Society's 20,000 members. Other officers of the Society for next year are: Vice Presidents—William A. Hanley, director of the engineering division of Eli Lilly & Co.; Thomas R. Weymouth, president of the Oklahoma Natural Gas Corp., Tulsa; Dr. Harvey N. Davis, president of Stevens Institute of Technology; managers—William L. Batt, president of the S K F Industries, Inc.; Herbert L. Whittemore, chief of the engineering mechanics sections of the U. S. Bureau of Standards; Harold L. Doolittle, chief designing engineer of the Southern California Edison Co. The Society's representatives on the American Engineering Council will include: W. R. Webster, Bridgeport; R. V. Wright, New York; J. W. Roe, New York; Robert Yarnall, Philadelphia; E. N. Trump, Syracuse; B. E. Hull, Houston; E. O. Eastwood, Seattle; W. Trinks, Pittsburgh; Warner Seely, Cleveland; William S. Conant, Washington.

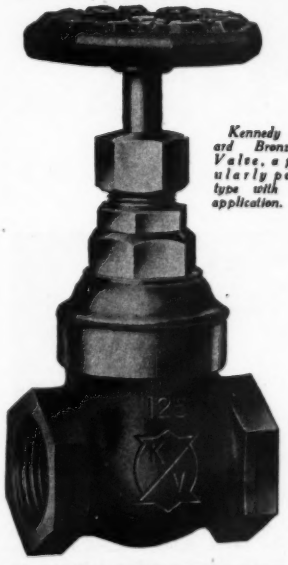
Mr. Wright has been active in the American Society of Mechanical Engineers for many years, serving as vice president and manager and as a member of numerous committees. During 1928-29 he was president of the United Engineering Society. He is widely known as an author in the fields of both engineering and transportation.



Top row: H. J. Kleinman, secretary, Frank Newton and Alfred Day, Jr. Bottom row: Charles Wilfong, Edward Rudd and Luther Brown. Photos taken at recent tournament of Delaware Valley Trade Golf Association

KENNEDY

VALVES~PIPE FITTINGS~FIRE HYDRANTS



Kennedy Standard Bronze Gate Valve, a particularly popular type with a wide application.

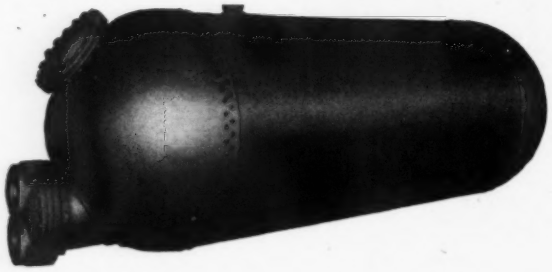
"I HAVE used Kennedy Valves for 35 years and have had splendid service," writes one contractor. Another writes: "I install nothing but Kennedy Valves for I find them the best."

These are two typical comments of the many which we continually receive. They indicate the thorough satisfaction which you, too, can expect from Kennedy products. The Kennedy line includes gate, globe, angle and check valves in bronze, iron body, and steel in a wide range of sizes and pressures, malleable iron and brass or bronze screwed pipe fittings, and cast iron flanged fittings and flanges.

THE KENNEDY VALVE MFG. CO., ELMIRA, N.Y.

New York Chicago San Francisco Philadelphia Cleveland Atlanta El Paso Los Angeles Seattle

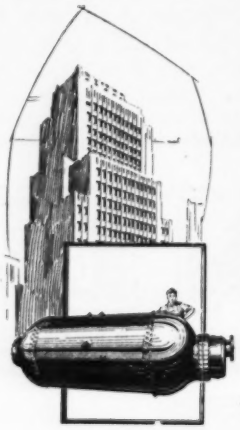
NOW... is the Time for COPPER BOILERS!

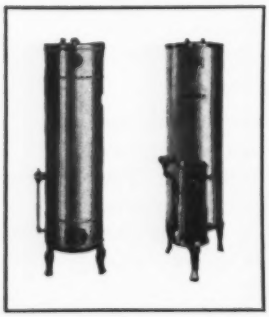


The price of copper is lower today than it has been for years. This condition gives an unequalled advantage to the purchaser of copper boilers. The superiority of copper over every other metal for hot water boilers is obvious to everyone, and the differential in price between boilers constructed of copper and those made of steel or galvanized iron is less today than it has been in years. This is a buyer's opportunity and the shrewd purchaser of hot water heating equipment is taking advantage of this condition, which is enabling him to secure the finest equipment at remarkably low prices.

Now is the time to install Dahlquist Copper Boilers for new work or to replace units of inferior material with the vastly superior copper product.

The Dahlquist Manufacturing Company produces a complete line of copper hot water heating boilers made to the very highest standards of material and construction from the largest unit for industrial purposes to the smallest range boiler for the cottage. There is a Dahlquist copper boiler to suit your requirements.





Ask us for full information regarding the Dahlquist complete line of copper boilers for industry and home.

Dahlquist fundamental improvements for household units are recognized throughout the world. The Dahlquist Aquatherm and the Dahlquist Turbo-Aquatherm have greatly increased the efficiency of hot water service for the home.

Write for full particulars.

Dahlquist Mfg. Co.

A, 2nd & West 3rd Sts. So. Boston, Mass., U. S. A.

Massachusetts Chapter Inspects Edison Steam Heating Plant

More than 150 members of the Massachusetts Chapter, American Society of Heating and Ventilating Engineers, accompanied by officers of the Boston Real Estate Exchange, Edison Electric Illuminating Company officials, and other guests, inspected the new Edison steam heating plant on Kneeland Street, Boston, as the feature of the October meeting of the Massachusetts Chapter.

The Hub engineers gathered at the huge new plant, said to be the most modern of its kind in the country, late in the afternoon, were divided into groups with Edison officials as guides and made a thorough inspection of the features of the installation.

In its present state the plant consists of two huge boiler units, each capable of evaporating 250,000 lb. of water hourly, operating at a 200 pound gauge pressure. The boilers will be fired by pulverized semi-bituminous coal, blown into the fire boxes. Every known precaution is taken for cleansing the gases of combustion before they are discharged to the atmosphere, and it is confidently believed that the equipment installed will thoroughly remove all dust from the chimney gases. Eventually the station will have six boilers with a total evaporating capacity of 1,250,000 pounds of water, all of which will be taken from the city mains and thoroughly purified before condensing into steam because of the fact that some of the steam will be used in cooking in hotels and restaurants.

Following the inspection, the engineers' society held a dinner meeting on the premises with President T. F. McCoy presiding. Mr. McCoy, after routine business had been disposed of, turned the meeting over to D. S. Boyden, a member of the chapter and head of the Edison steam heating service department. Mr. Boyden introduced Mr. I. E. Moultrop, G. E. Seabury, O. F. Mann, J. W. Wattles and H. L. Martin, who spoke on the engineering phases and discussed the economic side of district steam heating.

Top row: F. G. Brotz, works manager; Dr. M. D. Cottingham, medical director. Bottom row: Miss Lillian Kohler, Miss Marie Kohler and Mrs. F. G. Brotz.—Photos taken at the annual field day of Kohler Co.

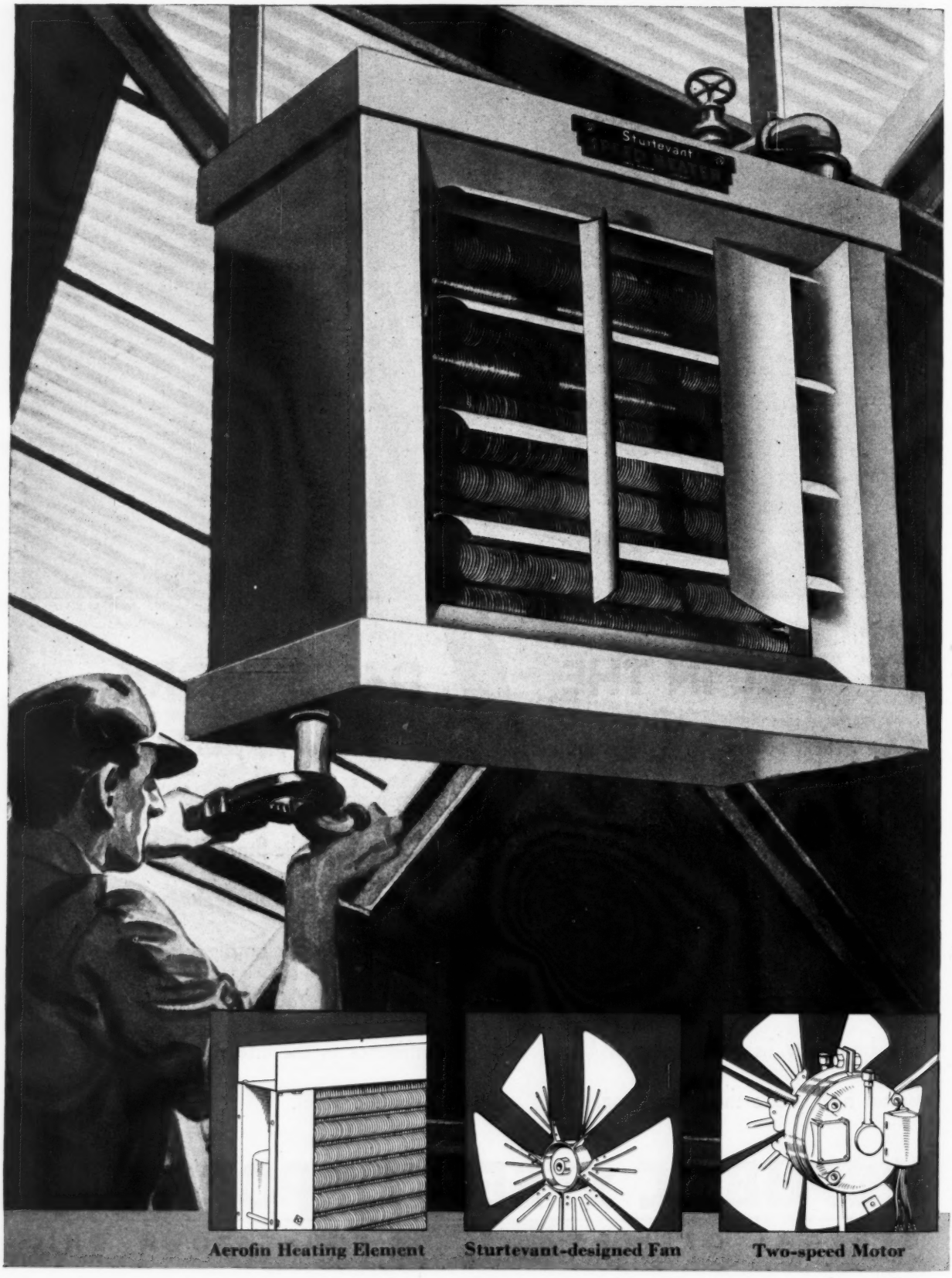
ALL IN THE DAY'S WORK

WHILE others worry and fret and wonder about this and that kind of pipe—you know. You've seen it in the raw—cut it, threaded it, roughed it in, sweated over the finished job. Many thousands of men like yourself to whom plumbing and heating piping is bread and butter have done the same thing.

And out of the years of close contact with pipe of every sort has come a confidence in Republic Steel Pipe—a confidence that brings a friendly feeling when you see the name Republic on pipe, on specifications, on proposals. You can recommend it with all confidence in the integrity of the makers of "Republic Steel."

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO


Sturtevant
Aerofin Heating Element
Sturtevant-designed Fan
Two-speed Motor

Matchless Value

OFFERED BY STURTEVANT

in the SPEED HEATER

A PRODUCT of the famous Sturtevant Research Laboratory, the Speed Heater has won the endorsement of all who have seen or used it.

"How in the world do you manage to turn out a heater like that at a price so moderate?" exclaimed an industrial executive at a recent heating exhibit.

The answers are . . . (1) Over 60 years of experience; (2) Sturtevant Engineering and Research Facilities; (3) Quantity Production!

If you install suspended type industrial heaters...we urge you to investigate the Speed Heater. We'll supply all the facts...you be the judge of Speed Heater efficiency...durability...value!

Speed Heaters for all standard voltages, A. C. and D. C., are carried in stock.

The Sturtevant Speed Heater is sold by

CRANE CO.

through dependable heating contractors everywhere.

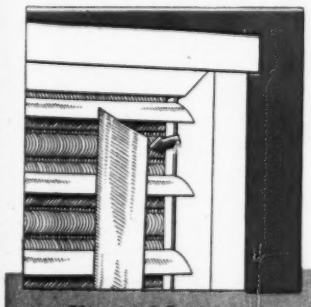
B. F. STURTEVANT COMPANY

Main Offices: HYDE PARK, BOSTON, MASS. CHICAGO, 410 No. Michigan Avenue. SAN FRANCISCO, 681 Market St.

Branch Offices: Atlanta; Baltimore; Boston; Buffalo; Camden; Charlotte; Chicago; Cincinnati; Cleveland; Dallas; Denver; Detroit; Hartford; Indianapolis; Kansas City; Los Angeles; Milwaukee; Minneapolis; Newark; New York; Omaha; Pittsburgh; Portland, Me.; Portland, Ore.; Rochester; St. Louis; San Francisco; Seattle; Washington, D. C.

Canadian Offices: Toronto; Montreal; Galt. *Canadian Repre.:* Kipp Kelly, Ltd., Winnipeg. *Agents in Foreign Countries.*

Sturtevant
(REG. U. S. PAT. OFF.)



Vertical Louvres

B. F. STURTEVANT COMPANY *(Mail to nearest Sturtevant office)*

☐ Mail "Complete Data" Speed Heater Catalog
☐ Mail "Tips on Speed Heater Selling"
☐ Have your local Sales Cooperator call

*Name*_____

*Street*_____

*City and State*_____

D. E. 12-13

Western New York Chapter Meets

The October meeting of the Western New York Chapter of the American Society of Heating and Ventilating Engineers was held at Hotel Buffalo, Buffalo, N. Y. All affiliated chapters of the Buffalo Engineering Society were guests to hear Miss Margaret Engels, engineer of the educational division of the Carrier-Lyle Corp., speak on "Doing Something About the Weather." About fifty members and guests were at the dinner, and a hundred more came in for the meeting, at which President Burke presided.

Miss Engels said that the practice of many American families of excluding moisture from the air in a room is responsible for the prevalence of respiratory diseases in this country. She directed attention to the fact that during the month of February, when respiratory diseases are at a maximum, moisture in the air is at a minimum. "It has been proven by scientific test that the air in the average American household is drier than that of the Sahara desert," she continued. "While the American is suffering through lack of moisture to the extent of two hard colds a year, the Eskimo rarely has a cold. The common cold is reduced to a minimum in frigid countries due to the mode of living in an igloo, the walls of which are damp." Miss Engel's lecture was illustrated with slides.

◆

Northwestern Ohio T. G. A. Holds Final Meet

The Northwestern Ohio Trades Golf Association held its final meet of the season at Highland Meadows Golf Club, Sylvania, Ohio, in October. Scores of the players on this occasion were as follows:

	G.	H.	N.		G.	H.	N.
H. Mendenhall	103	19	84	John Sawhill	99	25	74
J. M. Porter	83	15	68	R. W. Lang	129	20	109
C. P. Peppard	98	6	92	Cliff Hartsing	93	20	73
R. Mulally	99	26	73	Paul Hann	95	20	75
Otto Burand	106	23	83	M. W. Klein	95	16	79
Chas. Webb	130	25	105	C. Rothert	92	15	77
Verne Browne	109	7	102	Carl Senf	122	24	98
J. K. Kewley	84	14	70	Holt Bullock	110	11	99
F. E. Walters	87	24	63	P. Varble	119	18	101
Carl Eyster	114	8	106	T. Seabrook	109	23	86
Gus Goines	132	14	118	Mark Stophlet	104	34	70
Jas. Leonard	107	20	87	N. S. Larsen	109	17	92
Dick English	91	18	73	T. L. Carroll	107	6	101
Dan Randall	107	7	100	L. Winkle	121	5	116
Geo Krocker	124	..	..	Ed Fleischman	108	7	101
Louie Schroeder	89	16	73	Paul Harrod	113	7	106
C. McMenemin	128	11	117	Ive Snyder	82	20	62
D. E. Jones	89	..	..	Arnold Kaighn	110	12	98
Bruce Baur	86	15	71				

Thorough Understanding of Trade Practice Rules Is Needed — By HARRY G. STARR

IN accepting the office of president of the National Plumbing & Heating Institute, Inc., H. G. Starr made the following statement to the board of directors of the Institute and the members of the industry:

"In assuming the office of president of the National Plumbing & Heating Institute, Inc., it seems proper to consider our present condition and to make our plans for further progress during the coming year, in order that the members of the Institute may have some understanding of what may be expected in the observance of Fair Trade Practice Rules.

"Much of the work in the first year was necessarily of an educational nature, and there is no question in our mind that the wonderful work of our commissioner, F. W. Swanson, has secured for our industry a better knowledge of the application of the rules, and it is now certain that many of the evil practices, which, through usage, had come to be considered common commercial practices but which are now defined in the rules as unfair, are showing signs of yielding to the pressure for improvement.

"We propose to continue on an enlarged scale the educational and instructive work until every member of the industry has a thorough knowledge of the rules and their application.

"The work that lies ahead of us is to secure the more general acceptance and observance of the rules, not only as they are written, but of the principles upon which they are based.

"The National Plumbing & Heating Institute, Inc., was created under the authority of a resolution adopted at the Trade Practice Conference in Pittsburgh, for the purpose of acting for and representing the industry in the study and development of Fair Trade Practices. Our charter instructs us to receive and to investigate information as to the employment of unfair Trade Practices, and to report our findings to the members of the industry and to the Federal Trade Commission. In general we are instructed to use every effort to secure the adoption and adherence to the Fair Trade Practices as defined by the Federal Trade Commission and as adopted by this industry at their conference.

Harry G. Starr

"We believe the time has now come to use all the resources of our organizations to compel the observance of our rules. We believe that it is unfair to expect the earnest and sincere members of the industry to observe the rules unless we are prepared to bring into full operation all the resources of the Institute against those members of the industry who on any pretext whatsoever

GRINNELL PIPE FITTINGS

EVEN a pipe fitting can be a fine masterpiece of casting, threading and machining, or, it can be too crude to use in any high class piping system.

Leading engineers and contractors of America know why Grinnell Company has never made *ordinary* fittings. Since super-quality fittings are needed for automatic sprinkler work that is the standard for all fittings made by Grinnell.

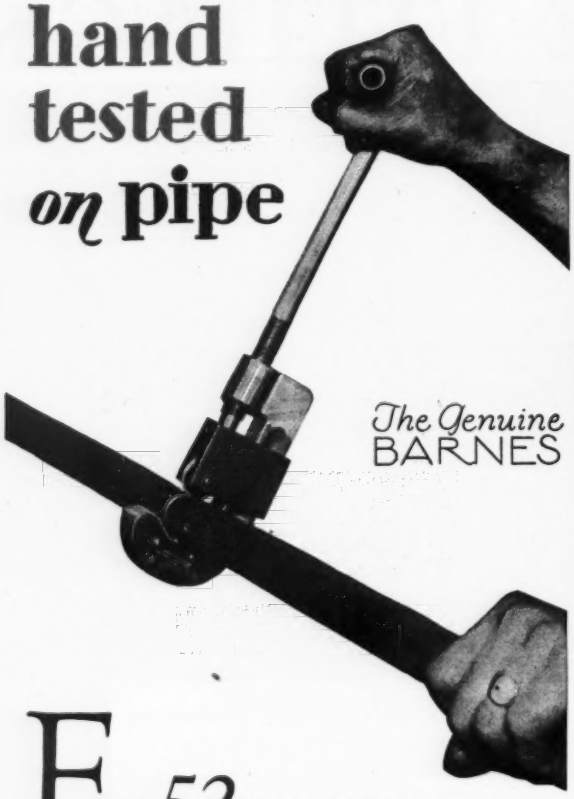
Contractors prefer Grinnell fittings because of ease and speed of installation work. Building owners specify them because they want fine appearance and low maintenance. This applies equally to both the cast and malleable lines.

For the same two reasons, exactly, Grinnell adjustable pipe hangers win preference and are specified by architects, engineers and owners of buildings.

GRINNELL COMPANY Inc.

Branches in all Principal Cities Executive Offices: Providence, R. I.

Each cutter hand tested *on* pipe



For 52 years The Barnes Tool Company has specialized in the manufacture of the most satisfactory pipe-cutter.

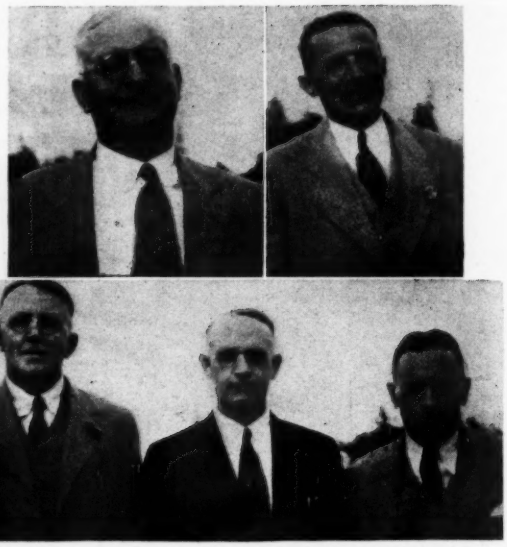
In the production of Barnes wheels, we employ methods in tempering and hardening which science and experience have taught us produce the utmost durability. The *genuine* Barnes knife-blade cutter-wheel is a steel drop forging . . . . not cut from bar stock.

Every *genuine* Barnes of every size is *hand-tested on pipe* before it leaves the factory.

You'll find this red tag on every Genuine Barnes

WHEN you place your next order, be particular to specify "the Genuine Barnes Three-Wheel Pipe Cutter." Then you can be sure of a perfect tool that will *"cut true and last a lifetime."*

The Barnes Tool Company, Inc.
Creators of the Genuine Three-Wheel Barnes
New Haven , , , Conn.



Top row: W. W. Campbell, Richmond Radiator Co., Boston; Fred F. Scott of Walworth Co., Boston. Bottom row: Robert Robertson, Sr., and Robert Robertson, Jr., of Robert Robertson Co., Beverly; Randall Hudson, Taco Heaters, Inc. Photos taken at the meet of the Massachusetts Heating Trades Golf Association at Winchester

are engaging in their business dealings in any unfair trade practices.

"We propose for the coming year that our officers and committees shall greatly increase their activities on complaints and investigations, in order to eliminate violations of the rules, and wherever it may become necessary, in order to secure the discontinuance of unfair trade practices, we shall file information with the Federal Trade Commission and seek their aid and support against unfair members of the industry who are unwilling to bring their business conduct within the scope of the rules which have been approved by the Federal Trade Commission.

"Many of the rules define practices which are so manifestly unfair that they do not require any elaborate interpretations or definitions. In this class are such rules as misbranding, misrepresentation, breach of contract, etc. While the extent of these practices is not great in our industry, they will receive whatever attention is necessary during the coming year.

"The rule, concerning which most doubt and uncertainty exists and the improvement of which will require a great deal of our effort is Rule Four. This rule defines price discrimination. This Institute has no concern with the selling prices of any member of this industry. We subscribe and we expect every member of the industry to subscribe to the principle of free and open competition when fairly practiced. The right of any individual member of the industry to establish and to declare his own prices is not in question. We do, however, deny the right of any individual to use his prices unfairly to the end that free and open competition may not prevail.

"We take the position that the established selling price of any individual or firm, no matter how they may be published or be made known, is the measure of the standard of value of his product, and when so published or made known is a notice to the public and to his

New

Added Strength Where It's Needed Most

Plumbers and Steam Fitters are Looking Up to

TRUS-FITTING

A NEW YEAR and a new fitting to aid the plumber and steam fitter—a fitting with a sturdy truss of metal to reinforce the one point where strain is greatest. This extra value exemplifies how closely Square "Gee" engineers are aligning their efforts with yours. For years all fittings have looked alike. Only the man on the job could actually know there *was* a difference when he used Square "Gees" on the job. Now you can SEE the difference this heavy duty truss gives every Square "Gee" fitting. You pay no premium for that difference—that added strength where it is needed most. Truss-fittings are furnished in convenient sized cartons.

THE GRABLER MANUFACTURING COMPANY
6565 BROADWAY CLEVELAND, OHIO
Warehouses: New York, Chicago, Los Angeles and San Francisco

YOUR FITTING PROBLEM IS SOLVED WHEN YOU SAY SQUARE "GEES"

SQUARE Pipe — **"GEE" Fittings**

MALLEABLE, CAST IRON — DRAINAGE, BRASS

Flush Valves That make good!

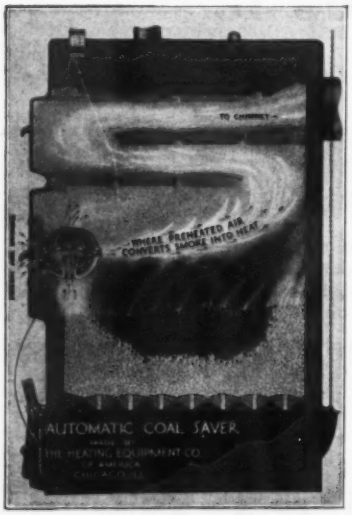
If you haven't already done it, make a note to do it now—write for the *new* Haas Sectional Catalog "C".

HERE is the Haas Universal Flush Valve, 1200 Series—a product of over thirty years manufacturing and service experience. Guaranteed for five years. Thousands in use. The originals of this line have been in use for over 19 years—more than three times the period of guarantee! Only a few simple parts . . . nothing but the best materials . . . finest craftsmanship . . . careful assembly . . . classy finish . . . something of which Haas is proud, and something your customers will appreciate and you will profit by . . . *Through your jobber.*

The Philip Haas Co., Dayton, Ohio, U. S. A.

HAAS UNIVERSAL FLUSH VALVES

SMOKE is fuel *wasted*



SMOKE, the bogey-man of the stack, is *not* an evil (except when you let it be.) It is a substance primarily composed of burnable elements. The AUTOMATIC COAL SAVER burns these elements, by mixing them with *highly preheated*, properly distributed air. Instead of waste, therefore, smoke becomes fuel. Exactly as the U. S. Government Bureau of Mines says: "The gases arising from the fuel bed are at times as much as 32 per cent combustible and no free oxygen to burn them. Hence, *air must be admitted over the fuel bed* and mixed with the combustible gases, and the mixture burned in the combustion space." That is exactly what the AUTOMATIC COAL-SAVER does! Simply attached to the door of any heating plant, it operates automatically, cutting coal bills from 15 per cent to 40 per cent, based on CO_2 tests and reports from thousands of installations. The fire heats the inner and outer balls, *preheating* the fresh air in a constant, regulated flow.

AUTOMATIC COAL-SAVER

Write for attractive dealer and distributor plan

HEATING EQUIPMENT CO. OF AMERICA
6 North Michigan Avenue, Chicago

prospective customers that such standards of value exist and have been adopted and declared by him and that they are a fair representation of the values of his product.

"We do not question the right of any individual or firm to change his prices whenever his costs or the value of his products change, and to publish them according to his customary methods. We do contend that it is an unfair practice for any individual or concern to depart from his regularly published prices in a specific instance with a specific customer for the purpose of securing some specific business while at the same time maintaining his prices with his other customers for their business. We shall contend that such departure from the published prices, whether secret or open, has the effect of misrepresentation and fraud upon those customers who have been required to pay the full published price, and is therefore an unfair trade practice.

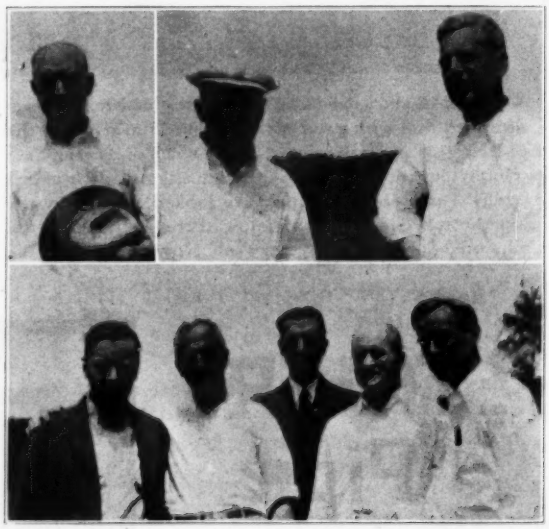
"We shall as soon as possible bring complaint before the Federal Trade Commission involving price discrimination as defined above in order that the decision of the commissioners will clearly indicate to the industry the operation of this rule on price discrimination.

"It is our intention to engage in as much constructive work for the benefit of the industry as possible, but we shall not forget that the National Plumbing & Heating Institute, Inc., was created for the purpose of establishing in our industry self regulation through the operation of fair trade practice rules.

"We shall, therefore, confine ourselves to that purpose and will not engage during the coming year in any efforts directed toward creating any new organizations or to eliminate or consolidate any of the existing organizations.

"On the basis of this pledge, we appeal to the officers and members of every one of the associations to give us their wholehearted co-operation and support, and we wish to make an earnest appeal for the elimination of any sectional misunderstandings which may previously have existed.

"We appeal also to every individual in the industry



Top row: Robert Savill, John Bitzer, C. W. Wanger. Bottom row: Frank Wilson, Russell D. Knight, M. Whelan, A. A. Tomlinson, Phil Faherty. Photos taken at recent golf tournament of Delaware Valley Trade Golf Association

A LONG-TIME INVESTMENT

Copper-Steel pipe

RESISTS CORROSION IN SOIL, WASTE VENT LINES AND RAIN LEADERS

BUSINESS DISTRICTS

FACTORY SECTIONS

RESIDENTIAL AREAS

IN soil, waste, vent lines and rain leaders and wherever pipe is exposed to atmospheric corrosion—NATIONAL Copper-Steel Pipe should be used to secure greater protection. Evidence, accumulated over a period of nearly twenty years, clearly proves that copper-steel adds years of extra life wherever piping is exposed to alternate wet and dry conditions; it is a simple and economical protection requiring no extra work or attention after installation.

NATIONAL Copper-Steel Pipe is the same high-grade steel pipe consumers have been using for years—the same ductility, strength, uniformity and good threading qualities. Just a small percentage of pure copper is added which thoroughly alloys with the highly refined steel, making it more resistant to this type of corrosion. Ask for Bulletin No. 11, describing—

NATIONAL COPPER-STEEL PIPE
The Original Copper-Steel Pipe

NATIONAL TUBE COMPANY · Pittsburgh, Pa.
Subsidiary of United States Steel Corporation

NATIONAL

People can't forget Quality

...that's why they always remember to specify *Plumbing by Mueller*

You remember the best catcher's mitt you ever had, your best slingshot.

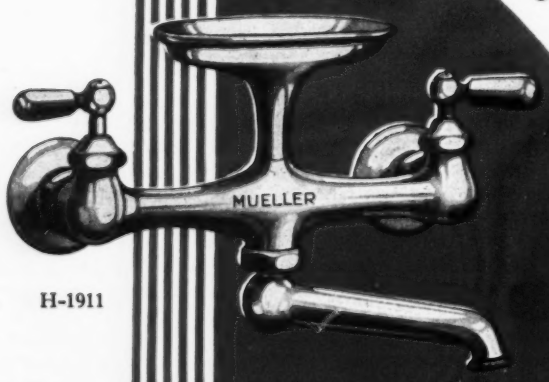
There's no getting around it—*Quality* does stand out. You can't forget it and you can't overlook it.

No one will ever forget Mueller Plumbing Fixtures. They were the best that could be made 75 years ago and they still are today. That's why so many architects, contractors, and owners specify Mueller whether it's a six-room bungalow or a city apartment hotel.

The Mueller All Metal Sink combination shown is H-1911. It has a Swing Spout, Indexed Brass Lever Handles, Removable Soap Dish, and Adjustable Threaded Flanges, One-half inch inlet connections. Eight inches center to center. It is specially heavy chromium plated.

Write for prices and complete information.

MUELLER CO. (Established 1857), Decatur, Illinois; *Branches:* New York, Dallas, Atlanta, San Francisco, Los Angeles, Chicago. *Canadian Factory:* MUELLER, Limited, Sarnia.



H-1911

MUELLER

PLUMBING BRONZE AND VITREOUS WARE

so to regulate his business conduct that no charge of violation of the rules may be brought against him, and what is perhaps equally as important, we appeal to every member of the industry to assist the Institute by giving information as to violations of the rules by others in order that the practices may be corrected, and the ethics of the industry brought to the highest possible standard."

◆

Sanitary Research Bureau Gives Dinner

The Sanitary Research Bureau held a meeting at the Boston City Club on November 18. This meeting was in the form of a Thanksgiving dinner. Many guests were invited, including officers of the National Plumbing and Heating Institute. Harry Starr, president of the Plumbing and Heating Institute, was presented with a beautiful wrist watch.

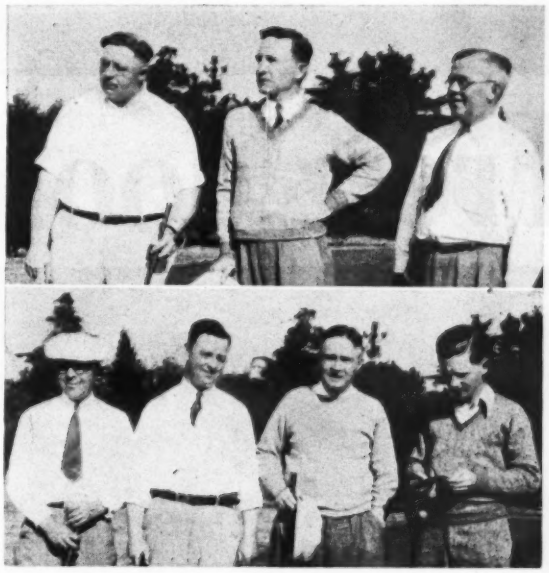
◆

San Francisco Club Plays Peninsula Course

The golf section of the Plumbing and Heating Club of San Francisco and the East Bay Cities unlimbered their sticks at the Beresford Country Club, on the afternoon of October 30.

Although situated amid charming surroundings and possessing velvet-smooth greens, the Beresford course is a tricky one, heavily trapped, and enjoys the distinction of being one of the finest in the state. In spite of traps and natural hazards, Don. L. O'Hair made two birdies, one each on the 3rd and 9th. Mr. O'Hair also accumulated honors in Class A with a net 76, tying with C. C. Anderson. W. R. Pearce shot a neat 72 to annex the B class trophy, while J. W. Forsythe did the same with an 84 marker in C division, and Harry Hoopes laid claim to glory in D class by virtue of a net 72. Henry Olson with an 85 turned in the best card among the guests.

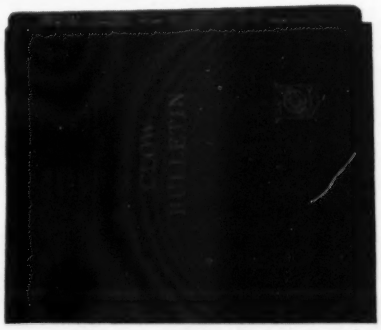
Jack Camp, Ralph P. Olson, W. H. Rainwater,



Top row: Frank A. Mosher, W. R. Pearce and C. J. Stewart. Bottom row: A. E. Somerton, Harry Hoopes, F. M. Gabbert and E. Heieck. Photos taken at the Beresford meet of the San Francisco Plumbing and Heating Club

More than 5000 plumbers hire this "never-wrong"

ESTIMATOR, INVENTORY TAKER, BUYER, INVOICE CHECKER



and pay only 83c per month

The big Clow Bulletin holds 450 pages of descriptions, illustrations, and prices on every modern plumbing appliance. Big index tabs show your thumb the sections—pronto.

Fixtures, pipe, fittings, etc., with their descriptions and prices are on the same page—for fast, sure reference.

Prompt supplementary sheets keep you up to the latest minute. Figure the help this book gives you by eliminating costly mistakes and speeding up Estimating — Inventory — Buying — Invoice Checking. 5000 master plumbers have used it for 15 years. Tear off the coupon right now—as hundreds of other wide-awake plumbers are doing.

Clow Bulletin
SUBSCRIPTION

Mail to
JAMES B. CLOW & SONS
201-299 N. Talman Ave., Chicago, Ill.

We hereby subscribe for the Clow Bulletin at the rate of 83 cents per month ($10.00 per year). Upon receipt of the Binder and Bulletin pages we agree to pay, at the monthly rate, the proper amount to carry our subscription until September 1st, and we further agree to pay thereafter the subscription price of this Service ($10.00) annually in advance.

And we further agree that the title of ownership to the Binder and Bulletin pages shall rest with James B. Clow & Sons and that upon our failure to renew our subscription at the end of any fiscal year (September 1st), or upon repayment to us by said James B. Clow & Sons at any time of the unearned portion of our subscription, we will surrender to said James B. Clow & Sons, or its authorized agent, the aforesaid Binder and Bulletin pages and this subscription shall be immediately terminated.

Nothing in this agreement shall obligate James B. Clow & Sons to publish or maintain the Clow Bulletin, the subject of this agreement, except that if the publication of the Clow Bulletin is discontinued after the receipt of our subscription, we shall be repaid the amount of the unearned portion of said subscription.

Name..... *Address*.....

Date..... 19..... *City*..... *State*.....

Fretz-Moon

Real Quality Builds Future Business—

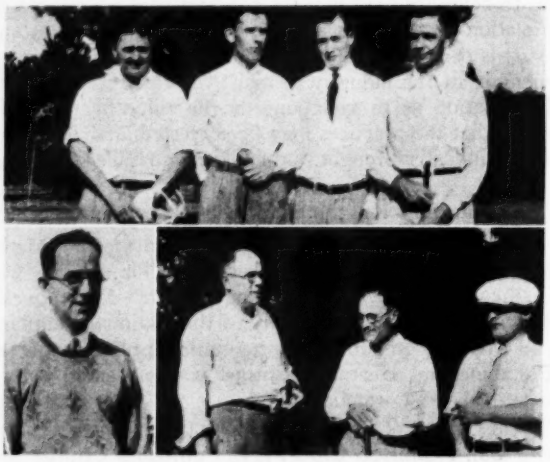
THE clean sharp threads on all Fretz-Moon pipe and couplings are more than just a time and labor saver—they are evidence of the care that enters into every phase of the making of this quality pipe.

Contractors anxious to build future business on good work and good will find a ready aid in this truly fine product —Fretz-Moon Pipe.

FRETZ-MOON TUBE CO., INC.
BUTLER, PA.

PIPE

BLACK and GALVANIZED



Top row: J. W. Forsythe, Ralph P. Olsen, W. H. Rainwater and Jack Camp. Bottom row: Elmer K. Ross, C. Drucker, F. A. Stauffacher and J. F. Beuttler. Photos taken at the Beresford meet of the San Francisco Plumbing and Heating Club

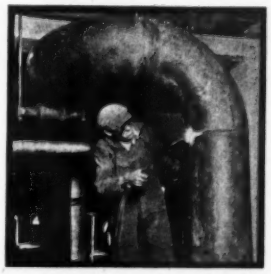
Henry Olson, H. Brown and the Turner brothers did some good playing. Among the scores were:

	G.	H.	N.		G.	H.	N.
Camp	111	18	93	Drucker	121	34	87
McLeod	106	19	87	Stauffacher (G.)	133	..	133
Finch	104	21	83	Ross	130	29	101
Olsen	136	31	105	Gabbert	114	22	92
Kraus	118	27	91	Allmon	96	17	79
Hoopes	105	33	72	Turner, W.	113	18	95
Somerton	114	25	89	Rainwater	112	24	88
Higgins	120	29	91	Greenberg	101	21	80
Lees	95	13	82	Callahan (G.)	109	..	109
Forsythe	110	26	84	Turner	122	26	96
Stewart (Guest)	104	..	104	Anderson	91	15	76
Pearce	96	24	72	Pomerene	102	38	64
Brown (Guest)	123	..	123	Riedy (Guest)	125	..	125
Rowe	95	17	78	Mosher	120	32	88
Olson (Guest)	85	..	85	Clark	109	21	88
Martin	132	36	96	Brace (Guest)	124	..	124
Blair	108	19	89	Beuttler (Guest)	101	..	101
O'Hair	90	14	76	Bogue (Guest)	111	..	111
Doerr	110	24	86	Heleck (Guest)	94	..	94

Top row: B. A. Bogue, B. Brace and Martin Doerr. Bottom row: Dodge Riedy, H. W. Pomerene and H. M. Callahan and Don Martin. Photos taken at the Beresford meet of the San Francisco Plumbing and Heating Club

Ask the Man Who Uses One

Many thousands thruout the country are using Airco-Davis-Bournonville torches because they have tried all the other makes of any importance. They find they can do better work, more economically and easily with this up-to-the-minute development of the American leading pioneer oxyacetylene welding and cutting apparatus.



Likewise, the large number of plumbers and contractors who have adopted welding as the best method of making pipe installations prefer Airco-Davis-Bournonville equipment.

If you can't ask a man who uses one, write to your nearest Airco Office listed.

AIRCO OFFICES:

Baltimore
Bettendorf, Ia.
Birmingham
Boston
Buffalo
Charlotte
Chicago
Cincinnati
Cleveland
Dayton
Detroit
Jersey City
Kansas City
Los Angeles
Louisville
Milwaukee
Minneapolis
New Orleans
Oklahoma City
Philadelphia
Pittsburgh
Portland, Ore.
Richmond
San Francisco
Seattle
Shreveport, La.
St. Louis
Wheeling
Wichita, Kan.

Represented in Texas by Magnolia Airco Gas Products Co., Houston, Beaumont and San Antonio.

AIR REDUCTION SALES COMPANY

Lincoln Bldg., East 42nd St., New York

Airco Oxygen—Airco Acetylene—Airco-Davis-Bournonville Welding & Cutting Apparatus—Supplies—National Carbide

CENTRAL CROMETAL FIXTURES

Are Genuinely Better

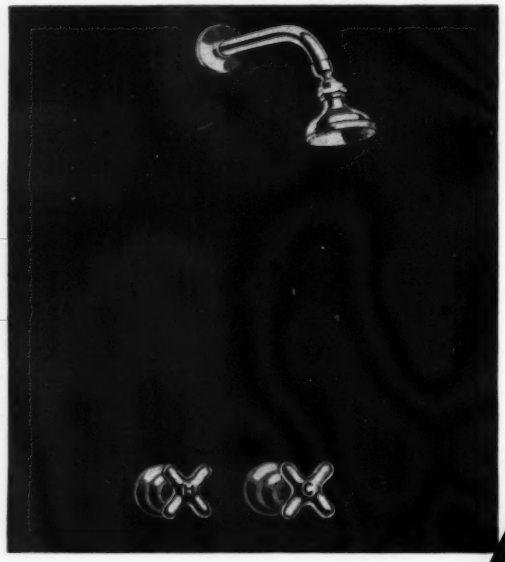


Fig. 1372. Central Crometal Built-In Shower. All exposed metal parts crome plated. LoXoN handles. Bent arm and cast brass ball joint shower head.

Fig. 1120. Central Crometal Blendo Lavatory Combination with Pop-up Drain. All exposed metal parts brass crome plated.

QUALITY always has its seat beneath the surface. It springs out of hidden, vital soundness of construction which is reflected in consummate finish. The fine appearance of Central Crometal Fixtures is perfectly fitting because it is the outward expression of quality designed by capable engineers and wrought out by experienced craftsmen. It is *the Central idea* that such character can never be commanded by mere price.

Central Fixtures are to be seen at your wholesaler's. Our catalog will be cheerfully mailed you.

CENTRAL
BRASS MFG. CO.
CLEVELAND OHIO.

Michigan Chapter, A. S. H. V. E., Hears National Officers

Sixty-five members and guests attended the November 10th meeting of the Michigan Chapter of the American Society of Heating & Ventilating Engineers at the Cadillac Athletic Club, Detroit, Mich.

After dinner, President E. E. Dubry introduced the secretary, A. V. Hutchinson, of the national society, who gave an interesting account of his recent trip to the chapters on the west coast, touching particularly on the type of program which they are following. Secretary Hutchinson called the chapter's attention to the thirty-seventh annual meeting which will be held in Pittsburgh in January and also stressed the fact that the campaign for membership in the organization is still going on.

After Secretary Hutchinson's talk, President Dubry presented National President L. A. Harding, whose illustrated lecture covered the subject "Utilization of the Sun's Energy." President Harding described the earliest type of machines which have ever been used for utilizing the sun's energy and continued through the types of machines up to the present experiment which the French scientist Claude is working upon, utilizing the difference in water temperatures at the surface of the ocean water and the temperature of the water about two thousand feet below the surface.

President Harding mentioned a practical utilization of the sun's energy in the use of so-called hot boxes on the roofs of buildings in such places as Florida and California where the domestic hot water is heated entirely by the sun's rays and is maintained at a temperature as high as 110 deg. the year around. One of the more or less amazing facts which President Harding mentioned was that under certain conditions in the summertime it is not impossible to find that the sun's energy is equivalent to 5000 h.p. per acre. President Harding predicted that weather forecasts in the future may be made by taking the readings of the solar energy.

The next speaker on the program was F. C. Houghten, director, committee on research, Pittsburgh, whose subject "Solar Energy and Its Effect on Heating and Ventilating Problems" was of particular value to air conditioning engineers. His discussion touched upon the absorption properties of the sun's energy by different thicknesses of roof slabs and the releasing of this heat during different periods of the day and night.

At the opening meeting, also held at the Cadillac Club, President E. E. Dubry introduced the following officers and members of committees, viz: R. K. Milward, vice president; Wm. J. Whelan, treasurer; E. H. Clark, secretary.

Board of Governors: G. H. Giguere, L. L. McConachie, N. B. Hubbard.

Speakers and Educational Committee: G. H. Giguere, H. M. Stephen, S. S. Sanford.

Entertainment Committee: R. K. Milward, L. L. McConachie, E. R. Harrigan.

Reception Committee: J. L. Fuller, W. G. Boales, Elwood Purdy.

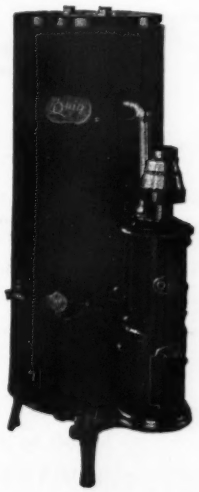
Membership Committee: N. B. Hubbard, H. A. Schwartz, D. J. King.

Ticket Committee: G. D. Winans.

Following this introduction, John L. Fuller introduced

Many Sales and Large Profits

15 to 1000 gal. capacity. Side arm or internal combustion type.



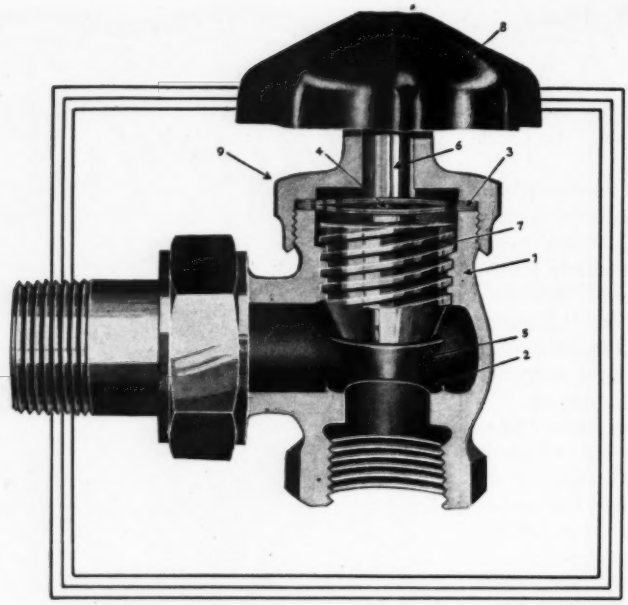
THE OHIO AUTOMATIC Hot Water Heater offers profit opportunities you cannot afford to overlook. Every new home in your territory provides a potential sale. And literally thousands of home owners now without up-to-date water heating equipment are waiting to be sold. Low prices make selling easy and profits BIG!

Write for our liberal proposition to dealers.

THE OHIO HEATER CO.
Columbus, Ohio

Manufacturers of the

OHIO
Automatic
WATER HEATER
"NO FINER WATER HEATER MADE"



1. Valve Body
2. Valve Seat
3. Metalflex Sealing Discs
4. Stem Collar
5. Flexcone Valve Discs
6. Valve Stem
7. Thrust Screw
8. Bakelite Handle
9. Valve Bonnet

MARSH presents a modern Packless Radiator Valve

. . . new in beauty and in simplicity of design

In keeping with the modern trend of interior decoration, the new Marsh System Unit Radiator Valve combines beauty with mechanical perfection. The simplicity of its lines, the two-tone polish and satin chrome or nickel body finish, crowned by a Bakelite control wheel of distinctive proportions, place this new unit abreast of the modern trend.

The Marsh System Unit Radiator Valve is truly packless. Its simple packless feature is not subject to deterioration, wear or cracking. The principles upon which it is constructed have proven themselves to be as sound as they are new. It is perfectly adapted to the requirements of any forced hot water heating system as well as vacuum, vapor and one-pipe heating systems. A glance at the illustration will convince you of its simplicity and superiority of design. Write for Bulletin No. 150.

for
vapor,
vacuum,
hot water
and one-pipe
heating systems

JAS. P. MARSH & CO.

Est. 1865

(Division of Commercial Instrument Corporation)

Home Office: 2079 Southport Avenue
Chicago, Illinois

551 Fifth Ave., New York City — Bendix Bldg., Los Angeles
2539 Pennsylvania Ave., N. W., Washington, D. C.

Sales Offices in principal cities

Marsh System Units

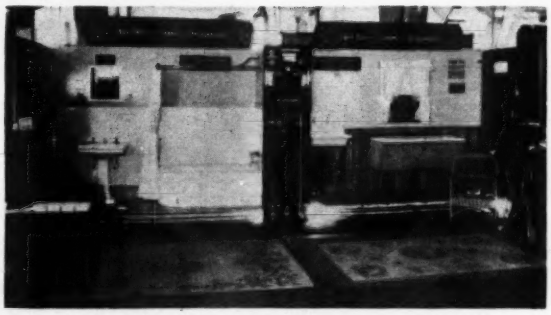


Exhibit of the Chase Brass & Copper Co., Inc., at the Boston convention of the National Association of Master Plumbers

Count Alfred Von Niezychowski who was second officer of the German cruiser Kronprinz Wilhelm, a mystery raider during the World War which captured fifteen allied vessels without the loss of a single life. Count Alfred Von Niezychowski's talk was full of thrills and points of interest pertaining to engineering practices.

James E. Degan then introduced George R. Thompson, budget director of the State of Michigan, whose subject was Budget Engineering. Mr. Thompson presented interesting data regarding the State of Michigan's building activities and touched upon many points interesting to engineers and contractors. After Mr. Thompson's address, a discussion followed, participated in by H. L. Walton and E. R. Harrigan.

The Michigan Chapter has inaugurated a policy of devoting a few minutes at the end of each meeting to a discussion of questions and problems which members of the organization may care to bring up. The plan is to have the members send their questions to the Secretary who will present them to the Board of Governors at their next meeting, and who in turn will assign some member of the organization to prepare the answers or lead a discussion at the following meeting.

◆

To Hold Conference on Bituminous Coal

A third international conference on bituminous coal will be held at the Carnegie Institute of Technology in November, 1931, according to a recent announcement by Dr. Thomas S. Baker, president of the institute, and organizer of the first two international congresses. An invitation will be extended to scientists of all countries to take part in the meeting. The results of recent studies of coal will be presented, and particular attention will be paid to the economics of the new methods and processes that are being evolved. Carbonization, liquefaction and gasification of coal, mechanism of combustion, cleaning of coal, etc., are subjects to be discussed.

◆

Give "Firebox" Party

The dedication of the new modern central heating plant of Klamath Falls, Oregon, was the occasion for a unique social event, a "firebox" party at which dinner was served in the combustion chamber of the firebox. Strong electric lights illuminated the combustion chamber, and it was necessary for guests to crawl through the small opening into the chamber.

Unusually Low Priced!

The Lavatory for you to SELL!

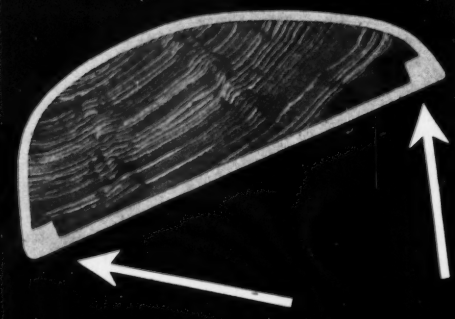
Now you can properly meet and overcome competition. The Pike Pedestal Lavatory is neat in appearance and design besides having the stainless and rustless features of VITREOUS CHINA. It has a front overflow allowing an EXTRA LARGE BASIN, 15½" x 11", INSIDE. Get in line for profits NOW! Investigate The Pike.

WRITE FOR FULL DETAILS

KEYSTONE POTTERY CO., Trenton, N. J.

THE PIKE *Pedestal Lavatory*

WHITE & COLORED WHITE & COLORED
WHITE & COLORED WHITE & COLORED WHITE & COLO
COLORED WHITE & COLORED WHITE & COLORED
WHITE & COLORED WHITE
WHITE & COLORED
WHITE & COLORED WHITE & CO
COLORED WHITE & COLORED
WHITE & COLORED WHITE
WHITE & C
COLORED
WHIT



Model No. 300

Brunswick

Quality Products have come into their own

Gone are the careless buying habits of yesterday. Today people are careful to ask about the QUALITY of things they buy. They say, "Is this good value? Will it last? Is it the best buy I can get for my money? Do you recommend it?"

In bathroom toilet seats today Brunswick offers the Value, the lasting quality, the "best buy" that people are looking for—*quality* with no price premium against it. The seat you can recommend.

Distributors and dealers who first see these facts are the ones who profit most.

For complete information, write the Brunswick-Balke-Collender Co., Dept. F-24, 623 South Wabash Ave., Chicago, Ill.

WHAT GIVES SUPER-QUALITY to Whale-bone-ite Seats?

Brunswick *cross-grain laminated* construction gives Whale-bone-ite Seats a super-strength that defies abuse. They are guaranteed for the life of the building. They end replacement expense once for all—a big saving for owners.

In the cross-section note the cross-grain laminated core of layers of hardwood, sealed and bonded to the whole by Whale-bone-ite. Guaranteed against warping, cracking, splitting.

For installation wherever hard service is expected—in public toilets, and quite generally in guest bathrooms of fine hotels and apartments.

WHAT GIVES SUPER-QUALITY to Brunswick White and Colored Seats?

The "Two Little White Squares" are Brunswick's answer—Brunswick's exclusive feature. See them in the cross-section.

They cushion and reinforce the critical edges with pyralin 9 times thicker and 800 percent stronger.

For the consumer, they are a life-time guarantee against ugly edge-cracking and splitting.

For the trade, they end profit-eating replacement service. And one sale leads to more sales.

Convention Dates

January 7 and 8, 1931—SOUTH DAKOTA—The annual convention of the South Dakota Retail Plumbers' Association, to be held at Watertown, with headquarters at the Lincoln hotel.

January 13 to 15, 1931.—WISCONSIN—The annual convention of the Wisconsin Master Plumbers' Association, to be held at Milwaukee, with headquarters at the Hotel Pfister.

January 20, 21, and 22, 1931—ILLINOIS—The annual convention of the Illinois Master Plumbers' Association, to be held at Danville, with headquarters at the Wolford hotel.

January 26, 27, 28 and 29, 1931—A. S. H. V. E.—The annual meeting of the American Society of Heating and Ventilating Engineers, to be held at the William Penn Hotel, Pittsburgh.

February 3, 4 and 5, 1931—OHIO—Thirty-ninth annual convention of the Ohio State Association of Master Plumbers, to be held at Canton, Ohio.

March 16 and 17, 1931—KANSAS—The annual convention of the Kansas Master Plumbers' Association, to be held in Iola, with headquarters at the Kelly hotel.

April 13 to 18, 1931—A. O. B. A.—The eighth annual convention and oil burner show of The American Oil Burner Association, to be held in Philadelphia, Pa., with convention headquarters at the Benjamin Franklin Hotel. The oil burner show will be held on the exhibit floor of the Gimbel Building.

April 21, 22 and 23, 1931—TEXAS—The annual convention of The Associated Master Plumbers of Texas, to be held at Houston at the Rice Hotel.

May 11, 12 and 13, 1931—N. P. S. A.—The convention of the National Pipe & Supplies Association to be held at Cleveland, Ohio, with headquarters at the Hotel Hollenden.

June 23, 24 and 25, 1931.—N. A. M. P.—The forty-ninth annual convention of the National Association of Master Plumbers, to be held at the Auditorium, Milwaukee, Wis., with headquarters at the Hotel Schroeder.

June 23 and 25, 1931.—N. A. M. P. AUXILIARY—The annual convention of the Women's Auxiliary to the National Association of Master Plumbers, to be held in the Hotel Schroeder.

COMING TRADE EVENTS

January 5, 6 and 7, 1931.—The ninth annual conference of presidents and secretaries of state and local master plumbers' associations, and of state and local heating and piping contractors' associations, to be held at the Congress Hotel, Chicago.

January 12, 1931.—The Wisconsin State Apprenticeship Conference to be held at the Hotel Pfister, Milwaukee, Wis.

February 9 to 20, 1931.—A short course in plumbing for master plumbers, plumbing instructors and plumbing inspectors, to be held in Madison, Wis., under the auspices of the Wisconsin Master Plumbers' Association.

February 10 to 14, 1931—The fifth Midwestern Engineering and Power Exposition, to be held at the Coliseum, Chicago.

June 22, 23, 24 and 25, 1931.—Exposition of plumbing, heating and allied products, in connection with the forty-ninth annual convention of the National Association of Master Plumbers, in the arena of the Auditorium, Milwaukee, Wis.

◆

Ontario to Have Training Classes for Apprentice Plumbers

In the province of Ontario, Canada, apprentice training classes will be concentrated in different centers throughout the province, and if the number of apprentices in any one trade is not sufficient in one center they will be sent to another district, where a better representation has been established. This will eliminate the necessity of establishing local classes where there is an insufficient number to justify them. Plumbing apprentices in many of the smaller cities will probably be sent to Ottawa for the classes which will open in January. These classes will run for eight weeks, and will meet five days of eight hours per week.

• SEMLER SURE-FIT •

FLANGED FITTINGS

Standard in every respect, fully meeting every requirement and made to give enduring service unfailingly, Semler SURE-FIT Flanged Fittings are made for the trade who appreciate good fittings. After a job is done it's too late to regret delays and costly repairs—make sure of the quality of the fitting first—insist on Semler SURE-FIT.

You can get them from your leading jobber.

Warehouse:
43-06 - 36th St.,
Long Island City,
New York.

Telephone
Stillwell 2912

SURE-FIT FITTINGS SEMLER STEAM FLANGED SPRINKLER DRAINAGE

SEMLER COMPANY
JEANNETTE-PA.
SURE FIT FITTINGS

METAPHRAM
DAMPER REGULATORS

For Maximum Combustion Efficiency

One reason for the high efficiency of gas, oil or stoker-fired heating boilers is *automatic combustion control* to produce uniform boiler output.

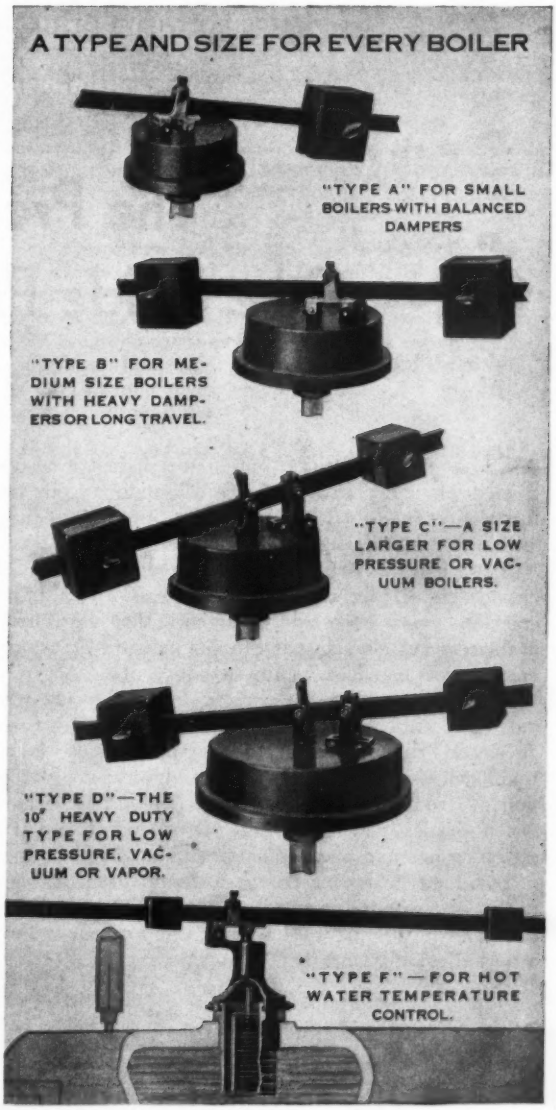
Install a properly balanced damper regulator on a hand fired boiler, adjust it to the point of desired boiler delivery, and combustion efficiency will be equal to the finest mechanical installation—lacking only the convenience of automatic firing.

The average heating contractor has a hundred service possibilities on hand fired boilers to one prospect for stoker, gas or oil.

And—while METAPHRAM Damper Regulators can't provide the convenience of automatic firing, they will insure combustion efficiency and convenience to the limit of hand firing possibilities.

There is a type and size for every domestic heating boiler—steam, vapor, vacuum or hot water; at a price that every heating system owner can afford.

NATIONAL REGULATOR CO.
2317 Knox Ave., Chicago


A TYPE AND SIZE FOR EVERY BOILER
"TYPE A" FOR SMALL BOILERS WITH BALANCED DAMPERS
"TYPE B" FOR MEDIUM SIZE BOILERS WITH HEAVY DAMPERS OR LONG TRAVEL.
"TYPE C"—A SIZE LARGER FOR LOW PRESSURE OR VACUUM BOILERS.
"TYPE D"—THE 10" HEAVY DUTY TYPE FOR LOW PRESSURE, VACUUM OR VAPOR.
"TYPE F"—FOR HOT WATER TEMPERATURE CONTROL.

NATIONAL
National Systems of Heat Regulation and Humidity Control, Metaphram Dampers, Metaphram Motors, Industrial Thermostatic Devices, A-Jacks Steam Damper Regulator for high pressure boilers, Metaphram Damper Regulators for domestic steam, vapor, vacuum and hot water heating boilers, Metaphram Furnace Regulators.
METAPHRAM
NATIONAL Type F METAPHRAM
NATIONAL METAPHRAM

NATIONAL REGULATOR CO.,
2317 Knox Ave., Chicago
Please send us

- ☐ Bulletin F-100—Type F Metaphram Damper Regulator for hot water boilers.
- ☐ Bulletin LP-100—Metaphram Damper Regulators for low pressure boilers.

Name.....
Address.....
Town..... State.....

8530

"The task of the Institute in the future will be to co-ordinate and to enforce. Our trade practice rules can be and will be observed for the power of moral sentiment, economic necessity and fair statutes regulating commerce is behind them."—F. W. Swanson

The Present Status of the Trade Practice Movement

By F. W. SWANSON*

IN 1929 the competition within this industry co-operated whole-heartedly and gave the industry our trade practice rules; 1,184 wholesalers and 744 manufacturers have to date signed the rules.

These rules as approved by the Federal Trade Commission September 23, 1929, are still in effect and we entertain every hope and confidence that any changes in them ultimately suggested to our industry by the commission will be slight, if any at all.

In addition, after the present uncertainty is wiped out, in the interests of this industry other rules can be developed, rules lawfully covering price bases, such as f.o.b. delivery; uniform selling contracts; standardization of products; observance of proper differentials between grades and quantities of products; and rules against waste and uneconomic practices of every kind.

You men, whatever the first disappointment, should not be disappointed in results secured by our trade practice rules in this the most trying period of our industry, a period more trying than even the years of 1921 or of 1918 or 1919.

Perhaps you do not realize the condition of our industry to September 30, 1930:

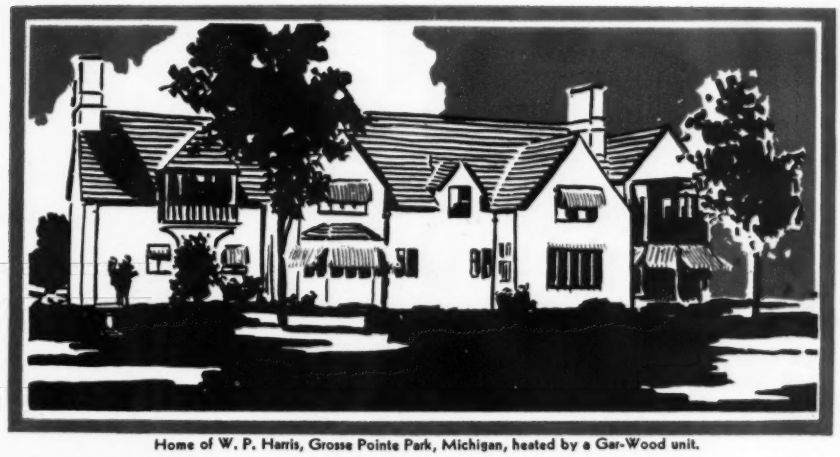
Residential Building:
1930 declined from 1929—48 per cent.
1930 declined from 1928—62 per cent.
Enamelware:
1930 declined from 1929—31.46 per cent.
1930 declined from 1928—44.44 per cent.
C. I. Boilers:
1930 declined from 1929—27 per cent.
1930 declined from 1928—43 per cent.
Radiators:
1930 declined from 1929—35 per cent.
1930 declined from 1928—47 per cent.
Gas-Fired Boilers:
1930 declined from 1929—9 per cent.
1930 gained over 1928—17 per cent.
Vitreous Ware:
1930 declined from 1929—24½ per cent.
1930 declined from 1928—34 per cent.

Pick up the daily papers at will—they only confirm the struggle you know to be going on within all industries.

From a New York daily of September 24th we find the furniture industry has been strangling itself through

"You asked for fifty-four specific results, every one of which any fair analysis would reveal as accomplished in part by the trade practice movement. If any men here haven't been personally helped it is because of their failure to use, not the failure of the trade practice movement to give."—F. W. Swanson

* An address by Fred W. Swanson, commissioner of the National Plumbing and Heating Institute, Inc., before the 36th annual meeting of the Central Supply Association, of Chicago. Parts of Mr. Swanson's address appeared in the November 15 and the November 29 issues. This is the concluding installment.



Home of W. P. Harris, Grosse Pointe Park, Michigan, heated by a Gar-Wood unit.

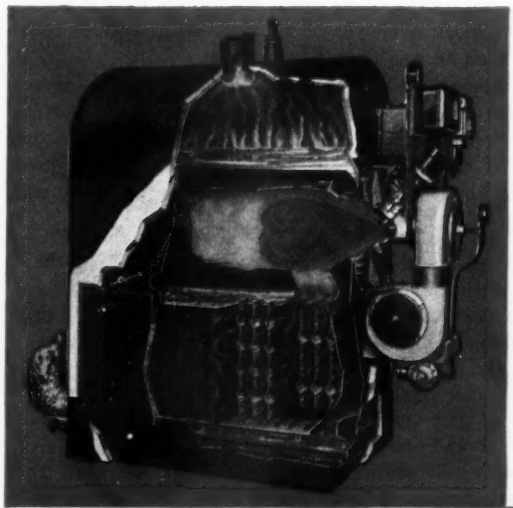
In this home the ***GAR-WOOD*** *gave*

TWICE THE HEAT... AND SAVED $264 A YEAR BESIDES

Built like an automobile radiator, the Gar-Wood boiler is designed to secure an almost complete transfer of heat to the water sections. The Gar-Wood burner is designed to effect almost complete combustion from the time it starts. Designed for and engineered into each other, the Gar-Wood burner and boiler form one complete balanced heating unit . . . to provide automatic heat from either oil or gas at a cost that is less than coal.

But what do home owners who have installed the Gar-Wood say about it? Ask Mr. W. P. Harris of Grosse Pointe Park, Mich. He had been using an oil burner . . . in a boiler built for coal firing . . . with a separate gas heater to heat his domestic water supply. He rebuilt and enlarged his home so that it required double the amount of radiation. After installing a Gar-Wood unit with its built-in water heater, Mr. Harris says:

"During the past heating season, from September 1st to June 1st, I used only one-half of one per cent more oil with the Gar-Wood plant than with the previous oil burning installation, and I heated twice the amount of radiation. In addition I used the Gar-Wood to heat all my hot water, reducing the gas bills over the previous year from an average of $38.00 per month to an average of $16.00 per month." A clear saving of $22.00 per month or $264.00 a year.



For two years the Gar-Wood has met the test of every practical operating condition in private homes. It has been repeatedly proven that its unprecedented efficiency reduces heating costs far below that of any other type of heating unit. Your clients will expect you to tell them all about the Gar-Wood. The coupon will bring you complete information.

• • •

Responsible organizations now distributing through the heating trade should investigate the Gar-Wood franchise. Write the factory for details.

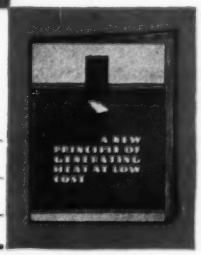
GAR WOOD ENGINEERING CO.
4196 Bellevue Ave., Detroit, Mich.

Gentlemen: Send me . . . without cost or obligation . . . a copy of "A New Principle of Generating Heat at Low Cost."

Firm Name

Address

City State D-12-30



GAR WOOD ENGINEERING CO.
4196 Bellevue Ave. Detroit, Mich.

Gar-Wood

Jarecki

Valves

When Jarecki designs a Valve (and it has been doing so for 78 years), that design is the last word in engineering.

When Jarecki builds a Valve (and it builds all sizes and styles), it uses only analysis-proved metals.

When Jarecki tests a Valve (and it tests them all far beyond their actual working pressures), you are assured of a safe margin over pressure ratings.

Jarecki
MANUFACTURING COMPANY
ERIE, PA., U. S. A.

PENNSYLVANIA
RANGE BOILERS

Lead the Way to Additional Profits

When you install a Pennsylvania Range Boiler on a job, the extra, trouble-free service it gives builds up your reputation and your customers' good will.

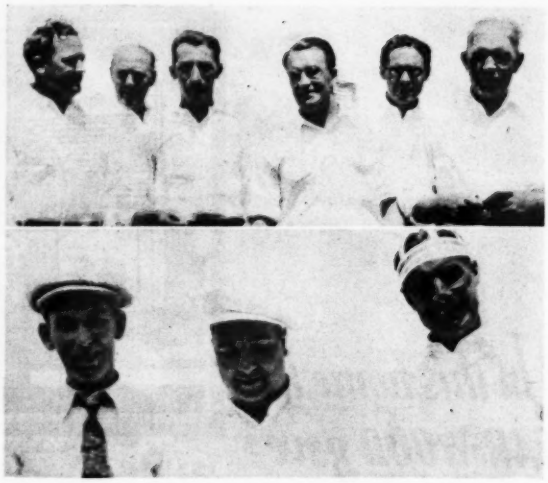
Standardize on Pennsylvania Range Boilers and watch your sales increase.

In Philadelphia for over 35 years.

Manufacturers of tanks of most every description on specification.

Ask your jobber to supply you.

PENNSYLVANIA RANGE BOILER CO.
Main Office and Plant:
S. W. Cor. 24th and Washington Ave., Philadelphia



Top row: A. D. Thomas, D. D. Reed, C. W. Gudnau, R. Guildford, F. P. Witte and D. W. Berry. Bottom row: Ira R. Kanack, A. G. Davison and Ernie Sanger. Photos taken at a recent meet of the Michigan Trade Golf Association

practices of over-production and price slashing and that every endeavor was now being made to establish standards to overcome its deplorable condition.

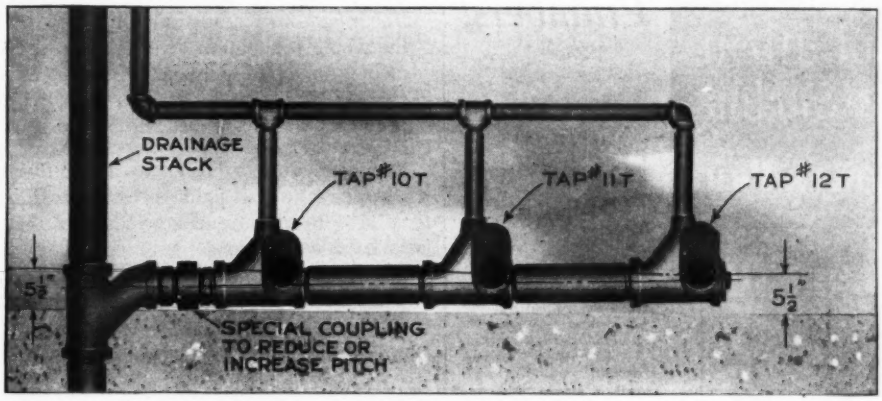
From a New York daily of September 24th we find Mr. Filene, of the Filene Department Store, telling the Boston Conference on Retail Distribution that for better business there must be within industry better trade relations. Then—in the same conference we find Rudolph Spreckles, sugar magnate and president of the Sugar Institute, calling for a drastic intervention of the government in the present business situation, suggesting that the government call a halt to ruinous competition by allocating shares of all business to various companies such as was done in war time.

We have only to recall President Hoover's recent statement and stand against wage slashing made before the American Federation of Labor, with his significant comment after reviewing the conditions which have brought about a deplorable situation in the soft coal fields:

> "that all these conditions have culminated in the demoralization of the industry and a depth of human misery in some sections which is wholly out of place in our American system. One key to solution seems to me to lie in the reduction of this destructive competition. It certainly is not the purpose of our competitive system that it should produce a competition that destroys stability in an industry and reduces to poverty all those within it. If our regulatory laws are at fault they should be corrected."

We have only to remember President Hoover's statement to the American Bankers in Cleveland, October 2nd:

> "that without intrusion the government can sometimes give leadership and serve to bring together divergent elements and secure co-operation and development of ideas, measures and institutions that



With the Crane Hulbert Fitting the pitch of the horizontal drainage line is obtained by uniformly decreasing distance between inlet and outlet tapping for each closet in a battery. It permits installation of up to twelve Expedio closets or six Walsyn closets in a battery, with the drain line back of the wall, above the floor

5 Excellent Reasons why you too should install Crane Hulbert Fittings

In the recently opened Merchandise Mart in Chicago, the building with the largest floor space of any commercial structure in the world, 600 Crane Hulbert Fittings are installed. This fitting was selected for the following five reasons, any one of which would make it a paying choice:

1 It eliminates necessity of piercing the concrete floor for each closet outlet.

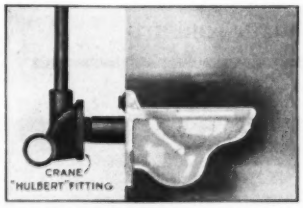
2 It saves the cost of metal floor sleeve for each closet outlet.

3 It avoids cost of raising the floor or false ceiling to conceal drain pipe.

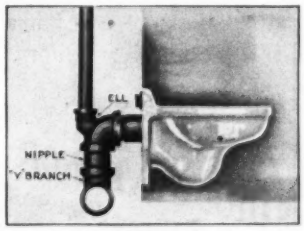
4 It saves the plumber's time in making two joints.

5 It eliminates two possible leaks.

There is no better way to get the order for a plumbing installation than to show a builder how he can save money. The Crane Hulbert Fitting is a money saver at the same time that it assures a better installation.



The Crane Hulbert Fitting. A combination of drainage elbow, nipple, and tee Y cast in one piece



Regular drainage fittings

Valves CRANE *Fittings*

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
NEW YORK OFFICES: 23 WEST 44TH STREET

Branches and Sales Offices in One Hundred and Ninety-six Cities

A NEW addition to our line at a LOWER PRICE

Plumbers!

Just the furnace you've been waiting for!

A sturdy furnace that will give years of satisfaction and service. Substantial wide base, welded bottom, all connections brazed. Drip cup combined with overflow saucer and one piece pressed steel hood. A new low price—just the furnace for the busy plumber.

This new addition to our line is built to standard Dreadnaught specifications. The burner (patented) is especially designed for fast pre-heating and generating purposes. Constructed for "service with safety."

P. WALL MFG. SUPPLY COMPANY
3126 Preble Ave., Pittsburgh, Pa.

WALL DREADNAUGHT
FURNACES AND
BLOW TORCHES

WALL SUPERIOR PRODUCTS

THE KAINER PRESSURE GOVERNOR
The KAINER
PRESSURE GOVERNOR
for Hot Water Heating Systems
—Reduces the cost of a hot water layout.
—Eliminates expansion tank and fittings (with its danger of freezing and overflowing).
—Simplifies installation—makes a better job.
—Saves your time and your customers' money.
—Increases your profits and builds good will.
Write us for full information.
KAINER & COMPANY
CHICAGO
761-771 MATHER STREET
Manufacturers

are reinforcements of our individualism. It does not cripple the initiative and enterprise of our people by the substitution of government. Proper co-operation among our people in public interest and continuation of such institutional growths strengthens the whole foundation of the nation, for self-government outside of political government is the truest form of self-government. It is in this manner that problems should be met and solved."

We have only to refer to an editorial in the New York Telegram of Friday, October 10th, on the anti-trust laws to find an acknowledgment that the anti-trust laws have not stopped mergers, and the question asked if they should be repealed, referring now to the Sherman and Clayton Acts, what would then take their place.

In an editorial in the Des Moines Sunday Register of October 19th, under the heading "Should the Sherman Act be Altered?" we find the suggestion that this country is no longer frightened by the size of industry and that overhauling of our restrictive statutes passed when the scare of size was dominant would not only be logical but perhaps extremely useful. The editorial, however, admitted that if there were no inter-state commerce commission to regulate the railroads there would be no alternative but to create an interstate commerce commission. That if there were no ultimate governmental checks on business there would inevitably be the need of intervention to establish those checks.

In the United States Daily of Saturday, October 18th, we find the chairman of the Federal Trade Commission recommending state legislation throughout the nation to penalize commercial bribery. In short, recommending that each state in the union should have an act similar to the Federal Trade Commission Act.

Volume No Answer for Stability

It has been proven by the experience of all industries that neither volume nor the absence of volume answers wholly for stability within industry. There must be certain fundamentals behind volume or the absence of volume.

As we see the situation at the present time without new legislation to guide us—industry can better afford to make Laws already standing serve its purpose by assisting in securing more liberal trade commission and court interpretations of the act passed in 1914 to prevent the price discriminations and the unfair methods of competition in commerce which in the past defeated stability, than they can afford to withhold their support from the only possible means of help available at this time, the trade practice conference procedure, sanctioned by authority of Sections V and VI of the Federal Trade Commission Act as an effective aid to that self-government outside of political government which President Hoover has declared to be the truest form of government.

We know of no better way for industry both nationally and locally to secure the stability that industries need now, than through its co-operation first, last and all the time on the clear definitions of what industry with the approval of a government body has condemned as unfair trade practices.

Industry needs stability of price structure on what volume is available as well as stability of price structure

under conditions of over-production and over-demand no matter what the price.

Some there are within industry who criticize freely.

Some there are even within this industry who sneer freely at every worth-while attempt made to standardize on a high plane the full responsibility of our industry to the individual within and to the public without.

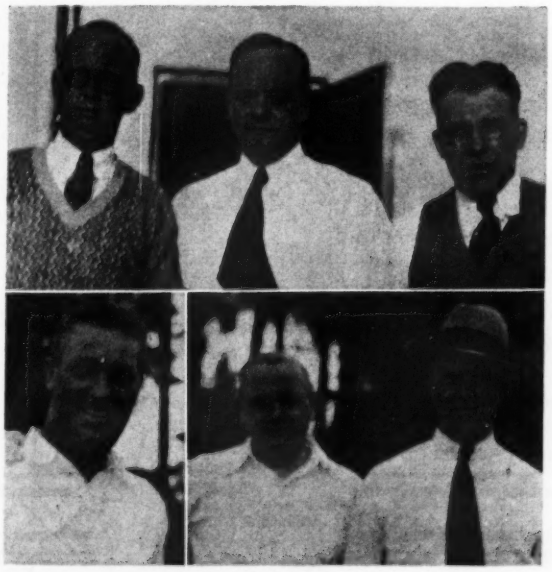
Some there are who forget that unless they discharge their share of their responsibility to their industry they cannot receive a full measure of prosperity from their own business.

Some there are who forget that the American business man is quick to retaliate and alert to hold his own and truer than the many hasty think, the lowest price on earth will not prevent cheating altogether.

Paraphrasing Ex-President Coolidge's statement of October 17th, too many there are in industry who feel that they should demand entire freedom of action and then expect the government or some other outside agency in some miraculous way to save them from the consequences of their own acts; too many there are who hold tenaciously and firmly to their individual right to spend their own money, to run their own business, to fix their own practices, wages and prices any way they damn please regardless of the interests of competitors, their industry or the public, but who look and yell in times of trouble or depression to the government or their sources of supply or to their associations or to some other outside source for a remedy.

When two years ago over two hundred of you expressed the results that you would like to see secured within our industry practically every one of you expressed an ideal of a result that has been helped by the trade practice movement.

You urged group co-operation locally. The trade-practice movement pointed a safe and lawful way for it.



Top row: W. R. Nygren, president of J. N. Knight & Son, Inc.; J. C. Distler, president of Riggs Distler & Co.; J. Nestor, Pollock & Nestor. Bottom row: Kenneth Carmer, Crane Co.; C. P. Gobosch, Pittsburgh Valve & Fittings Co.; Charles Mentzinger, C. F. Mentzinger & Son. Photos taken at the meet of the Plumbing Industry's Golf Association of New York City

THIS CHIEF IS RIGHT ABOUT PIPE LEAKS

"I won't stand for pipe leaks. When old joints are overhauled, the threads or gaskets must be coated with Smooth-On No. 3 and when we put up a new line, all joints are made that way from the start.

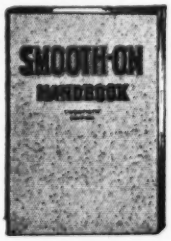
"We keep a store room stock of Smooth-On No. 3 specially for this work, and see that more is on hand before all the old supply is used up.

"Engineers that follow our practice will have fewer excuses and apologies to make to the front office and will stand better with the insurance inspector."

The money wasted by leaks and in repairing them should be saved, *and can be saved*, by filling all joints with good sealing material, instead of with the first makeshift that happens to be handy.

Smooth-On No. 3 is made expressly for satisfactory joint performance on steel, iron, brass or copper piping, flanged or threaded, and stays tight at any pressure and temperature and under extreme variations of both. As its particles of metallic iron fill every void and surface depression and are held in place by a permanent binder, Smooth-On No. 3 will never shrivel, shrink, crack or blow out. The expansion coefficient being that of the surrounding metal, neither vibration nor the punishment inflicted by superheated steam can break the bond. On a threaded joint, Smooth-On No. 3 lubricates in assembling and on the gasket of a flanged joint, it squeezes into most useful location under bolt tension. On any joint, it permits disassembling, and helps to overcome the effect of the excessive bending movements of lines poorly laid out with regard to flexibility.

Get Smooth-On No. 3 in 1 or 5-lb. can or 25-lb. steel pails from your nearest dealer or if necessary, direct from us.



SMOOTH-ON MFG. CO.
Dept. 12, 570 Communipaw Ave.,
Jersey City, N. J.

Please send copy of the SMOOTH-ON HANDBOOK, 21st Edition.

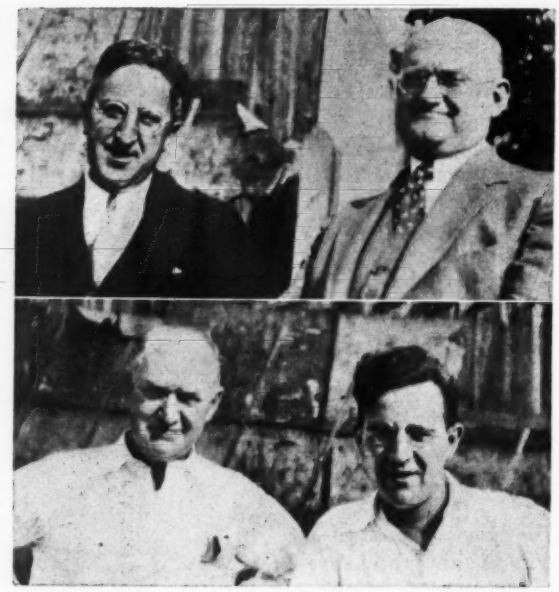
Name.....

Address.....

.....

12-13-30.....

Do it with **SMOOTH-ON**



Top picture: Leo Bernstein, vice president, Central Brass Mfg. Co., Cleveland; Charles P. Hackett, Philadelphia district sales manager of Pierce, Butler & Pierce Mfg. Corp., New York City. Bottom picture: Robert Savill, president, Thomas Savill's Sons, Inc., Philadelphia; T. L. Ferguson, American Radiator Co., Philadelphia. Photos taken at the outing of the Plumbsteam Club

You urged closer co-operation between the contractor and the supply house. The trade practice movement is gaining the support of the contractor, and has been approved by his associations as a very valuable way to improve the practices of the contracting branches of the industry.

You asked for fair practices by all competitors. The trade practice movement defines what have been the unfair trade practices in the past that destroyed confidence between competitors.

You asked that the wholesalers sell upon efficiency and service rather than too often as in the past upon price. The trade practice movement points the way to influence sales on quality and service without misrepresentation or discrimination. Have you observed the rules and have you had the courage to sell upon efficiency and service and quality?

You asked for a greater spirit of co-operation between the manufacturers and the jobber. The trade practice movement has resulted in a closer affiliation of manufacturing and wholesaling groups than this industry has ever known. While there is much to be desired in the future it has provided the means that must be used for whatever is to be accomplished in the future.

You asked that local competing wholesalers be urged to work together, one of you even going so far as to ask that conditions be improved in that great no-man's land of New York City. The trade practice movement has pointed the way for that bold desire's fulfillment and as a result of this movement there are now forces at work against the granting in that melting pot of America of price discriminations such as were formerly and are now given only to be given again; discrimina-

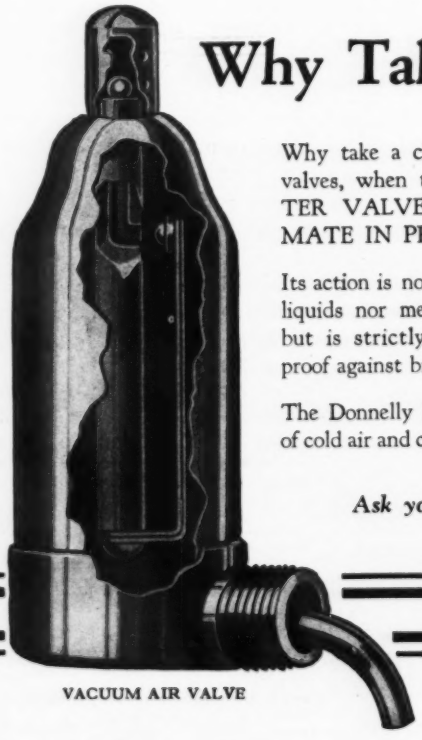
Why Take A Chance?

Why take a chance with cheap or inferior valves, when the NEW DONNELLY FITTER VALVE WILL GIVE THE ULTIMATE IN PROTECTION.

Its action is not dependent on floats, volatile liquids nor mechanical devices of any kind but is strictly thermostatic and therefore proof against breakdown.

The Donnelly Fitter Valve frees the system of cold air and closes instantaneously on steam.

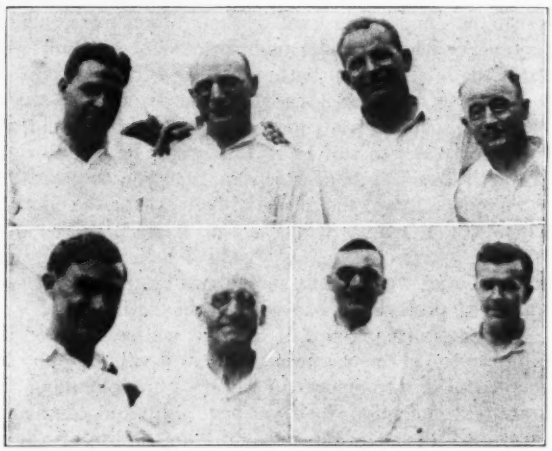
Ask your jobber about it



VACUUM AIR VALVE

VACUUM QUICK VENT

Donnelly Valve Company :: Malden, Mass.



Top picture: L. Sterns, L. R. Mendelson, president of Hotstream Heater Co., and host of the day; F. Boli, P. Boylan. Bottom row: C. Melcher, George Williamson, A. Fullerton, F. Barrett. Photos taken at a recent tournament of the Northern Ohio Trade Golf Association, at Oakwood Club

tions that resulted many times in the demoralization of the markets of manufacturers and wholesalers everywhere throughout the entire United States.

You asked for fifty-four specific results, every one of which any fair analysis would reveal as accomplished in part by the trade practice movement. If any men here haven't been personally helped it is because of their failure to use, not the failure of the trade practice movement to give.

Thank God there are forward looking men in this industry, many of them in fact, who believe in building the foundations of this industry upon the fundamental economic and moral standards of fair trade practices and that through this belief and their faith that the industry will financially support such standards, the National Plumbing & Heating Institute, Inc., will continue with a sufficient budget for 1931 of $125,000, providing funds to supply the new commissioner with field assistants to contact frequently the zone committees, to investigate complaints as they arise and to carry the story of co-operation through trade practice rules to every individual within the industry.

Our task this first year has been a task to keep the Institute alive, a task to keep the movement alive, a task to educate as best we could without coercion or compulsion and a task to save for future years the trade practice movement procedure with all its strength and potential power for good.

That task having been done, and we believe it has been done well, the task of the Institute in the future will be to co-ordinate and to enforce. Our trade practice rules can be and will be observed for the power of moral sentiment, economic necessity, and fair statutes regulating commerce are behind them.

In closing, your acceptance of what we have recommended in the past has only meant that we have been the mouth-piece of what you have been thinking in the past.

As long ago as 1925 in October, you applauded our views on the jobber's differential, of his right to a fair profit on whatever commodity handled, including lead goods, boilers and radiation, whatnot, of his right to

Dehn Protection Is Complete

Dehn protection means simply, engineering perfection. It means positive results and longest lasting service.

The PEERLESS Garage Drainage System is a Dehn product, designed for easy installation, perfect functioning and long life by George J. Dehn, S. E.

You may as well have Dehn equipment and satisfied customers because inferior equipment costs as much—and more—in the long run.

New Number Thirty Catalog illustrating and describing some new and improved appliances upon request. Your jobber can supply you.

"THERE ARE NO SUBSTITUTES EQUALLY AS GOOD."

COMPOUND INJECTOR & SPECIALTY CO.
Established 1897

GEORGE J. DEHN, S. E., President

419-421 D N. Laramie Ave., Chicago, Illinois

Originators, Designers and Sole Manufacturers of

DEHNSANIGARD
THE QUALITY GOODS
Trade Mark Registered

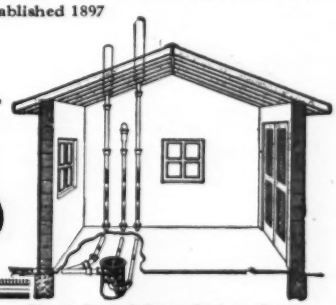


Fig. 62. PeerlesS Garage Drainage System correctly installed. Patented.

The GLOBE Sizzler
THE NO-POCKET, ONE-PIECE FURNACE COIL

Patent No. 1649660

More Profits — More Sales

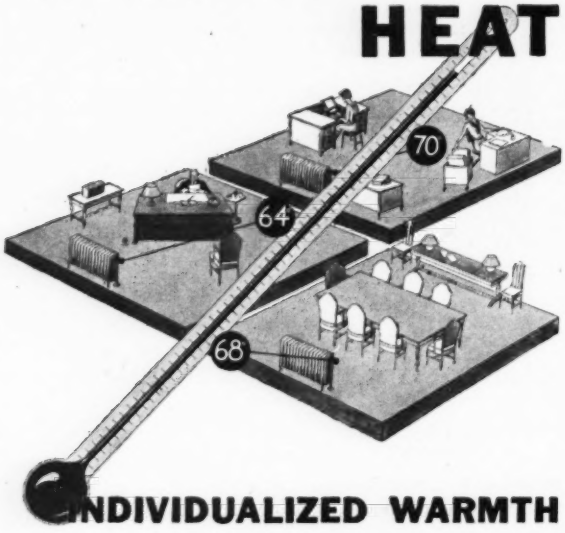
THE Globe Sizzler costs but little more than home-made coils. Yet it is many times better and brings you much bigger profit. It is a good-will builder, too, because it gives longer, more satisfactory service.

The Sizzler is the only one-piece, no-pocket coil made. Circulation always in an upward or horizontal direction. Because it contains no pockets it can't clog or lime up. *Write today for full information.*

GLOBE MACHINERY & SUPPLY COMPANY
227 W. Court Ave., Des Moines, Iowa

The Globe Sizzler is made in different lengths to fit all makes of furnaces. It comes to you ready for installation, each coil packed in an individual carton.

"Made to Measure" HEAT



INDIVIDUALIZED WARMTH TO FIT EACH ROOM

Sylphon Automatic Radiator Valves assure a better general heating for any building—because they prevent fluctuating room temperatures, one common cause of fuel waste. The Sylphon Automatic Radiator Valve is made to do just one job—and does it. Sensitive to the slightest temperature changes of the surrounding air—it steadily holds the warmth of any one room at exactly the degree most satisfactory to the occupants. Once its marked thermostatic head is set at "Hot," "Medium," or "Cold" there the temperature stays. Practically the entire thermometer range of comfort may be scaled for the individual warmth selection and once set all further radiator attention is avoided. Sylphon Automatic Radiator Valves positively eliminate uneven, injurious and wasteful heat for Factory, Office Building, Apartment or Home.

A COMPLETE RADIATOR CONTROLLING DEVICE

The Sylphon Automatic Radiator Valve is a combination packless valve and temperature control unit. Its motor element is the dependable Sylphon Bellows. It has no electrical or mechanical accessories to get out of order. Easily installed and inexpensive — architects and engineers specify it with full confidence in its lasting efficiency.

It is fully described (both types —angle and globe) in our illustrated printed matter, which will be gladly sent. Write today for Bulletin XD 250.

FULTON SYLPHON CO.
KNOXVILLE, TENN., U.S.A.

Representatives in all Principal Cities in U. S. A.,— European Representatives, Crosby Valve and Eng. Co., Ltd., 41-2 Foley St., London, W. I., Eng.; Canadian Representatives, Darling Bros., Ltd., 140 Prince St., Montreal, Que., Canada.

resent the dumping in local markets by outside competition, either in actual sales or in price dissemination; you accepted our support, with others, to the program of cost finding, and our open opposition to a large manufacturing jobber's contention that if a jobber could not do business at a cost of 12 to 13 per cent he had no right to stay in business; and finally in 1929 you accepted our recommendation of the means to be used for the elimination of those many vicious unfair trade practices then existing within the industry which acknowledged and known by all were tearing down and destroying all possibility of profit and good will within the industry.

Perhaps in this record of the past we have earned the right to urge in the last public address it will undoubtedly be our pleasure to give as an officer of any plumbing and heating organization, that you have faith and courage to carry on. That you remember that in the life of a business it is not only the first year but as well the faithful holding out in subsequent years that makes that business grow and become successful.

The experience of the past two years in the face of most severe depressed conditions demonstrates that we can more often than not be masters of our fate; that we have it within our power to decide whether 'tis nobler in the mind to suffer the stings and arrows of outrageous fortune or by taking up arms against the sea of troubles that beset us and opposing, end them.

You are thinking men, men committed to earn the proper rate of return on your investment, whatever the business conditions.

You are ethical men or you would not be found here brought together by an association promoting programs for a better and a more stabilized business.

Do I then, or does anyone then, need to urge that you be pilots, not just sailors, and that you continue to steer the plumbing and heating ship in the right direction and that you guide it through calm seas to safe harbors by the all-powerful power of the purpose that in so far as you yourself are concerned fair trade practices and fair trade relations shall prevail and that all unfair methods of competition within our industry, from top to bottom, from bottom to top, that would retard the voyage shall be eliminated whenever and regardless by whoever attempted.

Do I hear someone whisper that he has a better way to make industry profits, to promote better trade relations or a better way to prevent unfair methods of competition than the way we have traveled the past two years? If so, have courage friend, speak up, take off your coat and go to work for your way, right here and now. Others have done it before you.

If though, that some one and you have no better way or you are unwilling to take off your coat to go to work or to make the required sacrifices for your way, then I challenge you to be men big enough to continue to support generously with both your time and your money the on-going thrust of a great movement, a fair trade practice movement that has gained strength as it has fought its enemies, a movement that has cost the sacrifices of the many within our industry who have voluntarily taken off their coats and who have without restraint of their own time gone to work for my and for your economic stability by the elimination of all the unfair methods of competition within the industry.

THE TRADE
News of Plumbing and Heating Contractors

Headquarters Selected for Wisconsin Convention and Apprentice Conference

The Hotel Pfister has been chosen as the meeting place for the annual convention of the Wisconsin Master Plumbers' Association, to be held January 13, 14 and 15, 1931, in Milwaukee.

The Wisconsin State Apprenticeship Conference is scheduled to be held on the day preceding the state plumbers' convention, January 12, 1931, also at the Hotel Pfister.

◆

S. Dak. Convention to be Held January 7 and 8

The South Dakota Retail Plumbers' Association will hold its annual convention at Watertown, S. Dak., on January 7 and 8, according to word just received from Clifford F. Smith of Sioux Falls, secretary-treasurer of the state body. Headquarters will be at the Lincoln hotel, and the master plumbers will hold their meeting in conjunction with that of the South Dakota Contractors' Association. The convention program has not as yet been completed.

◆

Cincinnati Masters Have Educational Program

A program of education planned and directed by the Plumbing and Heating Industries Bureau and sponsored by the Cincinnati Master Plumbers' Association was given on Friday, December 5 in the Scottish Rite Auditorium at Fifth and Broadway. A banquet at six o'clock was followed by a sales demonstration in dramatized form, presented by a cast from Chicago. Manufacturers, wholesalers, salesmen, contractors and their wives, journeymen and their wives, and office employes of contractors attended the meeting.

◆

H. & P. C. Standards Committee Meets in Boston

A meeting of the standards committee of the Heating and Piping Contractors National Association was held at the headquarters of the association in New York City on November 17. Those present included Chairman Ralph S. Franklin of Boston, Charles E. Crone, Jr., of Chicago, George P. Nachman of Cleveland, Ray L. Spitzley of Detroit, R. A. Wolff of New York City, and Secretary W. H. Oleson of Boston. Robert C. Morgan of Philadelphia was unable to attend because of illness.

The committee devoted its time to an agenda which comprised about a dozen subjects. Among the more important of these were pipe sizes for atmospheric steam jobs, hot water piping, the extension of the association's base temperature and ex-

Members of the Apprenticeship Committee, N. A. M. P.

Henry J. Ritter, Buffalo, N. Y.

J. Preston Perham, Boston, Mass.

William Loftis, Atlanta, Ga.

Chas. W. Wilson, Youngstown, Ohio

Clifford F. Smith, Sioux Falls, S. Dak.

posure factor studies to other cities, the approval of several standards and the question of heat losses through floors in buildings without basements.

The committee recommended to The American Society of Mechanical Engineering that 25 lb. pressure fittings be clearly marked to avoid any confusion with those designed for 125 lb. pressure. The committee concurred in the findings of various committees studying standards for wrought iron pipe nipples and steel base fittings and pipe plugs, and voted to recommend to the board of directors the adoption of the proposed standards by the association.

Mr. Franklin outlined to the committee his belief that the base temperature and exposure factor studies should be extended to other cities, stating that the 36 major cities where figures are now available are not inclusive enough. The committee agreed that studies leading to an addition to the standards are desirable. Another subject of importance was that of standards for hot water piping, no definite action being taken by the committee. It was felt after some discussion that co-operative tests of radiator condensation should be made with the American Society of Heating and Ventilating Engineers.

Mr. Nachman was named as a sub-committee of one to prepare data on floor losses in buildings without basements, with a view toward reporting to the full committee at a later date.

◆

Milwaukee Interested in Bookkeeping

The bookkeeping class sponsored by the Milwaukee Master Plumbers' Association at the Milwaukee vocational school will close its three-month session the latter part of December. Twenty-three persons have already enrolled for the following three-month period, according to Peter King, secretary of the association.

A registration fee of $1 is paid by each person taking the course, E. H. Schroeder, a certified public accountant, was chosen by the Milwaukee Master Plumbers' Association as the man most fitted to conduct the course, inasmuch as he advocates the system of the Plumbing and Heating Industries Bureau. Classes meet twice each week.

◆

Boston Heating Contractors Meet

Another educational meeting of a series by the Heating & Piping Contractors Boston Association was staged at the association offices, 216 Tremont street, on Wednesday afternoon, November 26, with H. M. Brightman, manager of the Boston sales office of the C. A. Dunham Company, as the speaker.

Mr. Brightman chose as his subject the possibilities of the heating contractor securing remodeling and rehabilitation work in business structures.

◆

Elected President of Chicago Plumbers' Club

At the annual election of officers of the North and West Side Master Plumbers' Pleasure Club, held on December 3, R. J. Nelson was made president, Henry Swade vice-president, H. H. Diedesch financial secretary, F. W. Sorge recording secretary, Henry Breyer treasurer. L. P. Markowski was elected sergeant-at-arms of the North and West Pleasure club.

Four new directors were elected—Henry Swade, Charles Burmeister, H. H. Diedesch and Paul Jacoby. At the next meeting these officers will be formally installed.

Prior to the meeting there was a bowling contest between the plumbers and a team of Ferguson & Lange Foundry Co. The plumbers were victors by a score of 2,393 to 2,146.

◆

A Letter from National President Drake

George H. Drake of Buffalo, N. Y., president of the National Association of Master Plumbers, sends the following message to presidents and secretaries of affiliated state and local associations:

"The annual Presidents' and Secretaries' Conference will be held January 5, 6 and 7, 1931 at the Congress hotel, Chicago, Ill.

"This yearly meeting, which is conducted under the auspices of the Plumbing and Heating Industries Bureau, is the ninth conference of officials of the two national organizations, viz., the National Association of Master Plumbers and the Heating and Piping Contractors National Association, as well as the presidents and secretaries of state and local associations of both these organizations.

"The benefits derived from this conference cannot be too forcibly impressed upon the officers of our state and local associations and the information obtained by attending and participating in the discussions on the various topics of interest to our industry, which are presented at these conferences, is of inestimable value to the representative of every association and more than justifies the time and expense involved.

"One of the important subjects for discussion at this conference is that relative to the regional management conferences which have been conducted during the past few months under the direction of Joseph G. Hildebrand of the Plumbing and Heating Industries Bureau, in several of the western states.

"These meetings consist principally of dramatized sales presentations and their value to the industry is shown by the large attendance and the request that they be presented in other sections of the country, as a means of education in modern methods of merchandising and business management.

"The problem of finding a way to make permanent the beneficial effects of these conferences will be discussed.

"Every state and local association has some problem or topic which may be of interest to an association in another section of the country and this conference is for the purpose of discussing what local and state associations are doing and possibly learning how 'your' particular problem or trouble has been satisfactorily adjusted or settled by others.

"The president and secretary of every state and local association should endeavor, if possible, to attend this conference and be present at every session in order to submit a complete report of all that transpires, to his association."

Philadelphia Masters Hold Past President's Night

The Master Plumbers' Association of Philadelphia, Pa., at the instigation of its president, Maney J. Feeney, having designated November 6, the regular monthly meeting date, as "Past Presidents' Night," received the response of three hundred members who presented themselves at the meeting rooms of the organization to greet Past Presidents George F. Uber, Gregor Drummond, H. L. Righter, E. F. Roberts and W. H. Ambrose. Past Presidents D. F. Durkin, Jr., and W. M. Anderson, who served during 1919 and 1920 respectively, the other living past chief executives, were absent, the former through illness and the latter because of absence abroad.

At the outset of the meeting, which was preceded by a dinner to the honored guests, the present officers, the directors, and a few others, President Feeney explained its object as being to bring together the men whose efforts, both while in office and afterward, have contributed so much toward giving the organization the national position it now enjoys.

George M. Hicks was called upon to present Past President Uber, who served from 1889 to 1900. The fifth president outlined the events leading up to the organization of the association when, late in 1883, he together with John Burke and Colonel George D. Scott, then president of the National Association, met for a discussion of the subject. The following year, he said, the association was founded with fifteen members and he expressed his wonderment at its development. As an indication of the depth of his feeling toward it and how much the hundreds of members have come to mean to him, Mr. Uber said that of the twenty-one organizations to which he belongs the Master Plumbers' Association would be the last he would give up.

Gregor Drummond, president during 1905, was presented by William Boal, who, reading from some of the bulletins sent out by Mr. Drummond, among other things quoted: "The success of the organization depends on the co-operation of its members." Mr. Drummond, indicating the indispensability of the association where he was concerned, said that joining it was his first stepping stone toward success, as it brought him into contact with master plumbers who imparted their broader knowledge from which he benefited greatly.

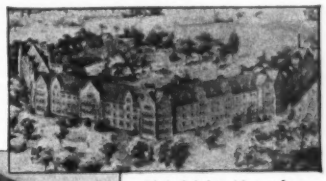
Secretary Robert H. Pflug-Felder introduced Harry L. Righter, president during 1907, as one who did much toward getting passed the legislation that now governs plumbing installations. Mr. Righter, president of the Germantown Association and who was accompanied by a large delegation from that section of Philadelphia, in comparing the business conditions of earlier days with the present said that while there was no hardware store and other direct selling of plumbing and heating materials in former years, the present day conveniences of installation and home comforts were also lacking. The unlimited opportunity for merchandising which obtains now, he said, disgusted him with those who are constantly bewailing that business is poor.

E. F. Roberts, who presided from 1908 to 1918 and who has just been re-elected a city magistrate, was introduced by Treasurer George Moeller. Judge Roberts, discussing the meetings of years back, noted that they fell far short of the spirit and interest that is now prevalent. He also recounted many instances of deep

PHILADELPHIA HOSPITALS
Know the Secret
of Dependable Heating

Where human life often depends on keeping patients warm, it is dangerous to take chances with radiator traps that may fail to function just when most needed.

Because of their proved dependability over a long period of years, Sarco Radiator Traps are the favorite with a large percentage of America's leading architects, engineers and contractors.



Philadelphia Home for Incurables

Delaware County Hospital, Philadelphia

Hanover Hospital and Nurses' Home, Philadelphia

SARCO
RADIATOR TRAPS

have an unusually large discharge opening and high lift giving greater capacity.

Long uninterrupted service is assured by the heavy helical bellows, having a continuous spiral of corrugations, that insures even distribution of the movement and eliminates "wear spots."

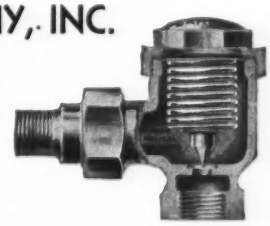
These traps cannot air bind or freeze. Many other features explained in our Booklet M-75. Send for a copy.

SARCO COMPANY, INC.

Manufacturers also of Inlet Valves, Air Eliminators, Thermostatic Return Traps, Drip Traps, Temperature Regulators and complete equipment for heating systems.

183 Madison Avenue
New York, N. Y.

Branches in Principal Cities



SARCO CO., Inc.
183 Madison Avenue, New York, N. Y.

Without obligation, you may send the following:

☐ Radiator Trap Booklet AK-75.
☐ Complete Heating Equipment Catalog 75.

Name_____

Address_____

Town_____ State_____

PRODUCTS BRASS TRENTON T B T B

Be Fully Protected

When you install Trenton Ball Cocks and Flush Valves you are not only protected by the superiority of the working efficiency of these Products but also by a rigid Trenton Guarantee. Protect yourself—Use Trenton Brass Equipment.

LOOK FOR OUR CATALOG IN PLUMBING & HEATING CATALOG

If you have not our complete catalog send for it today.

The Trenton Brass & Machine Co.

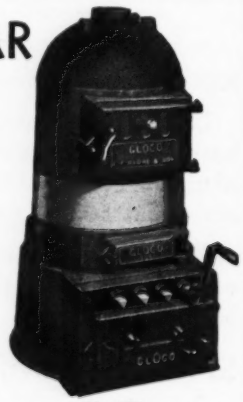
TRENTON NEW JERSEY

Represented by
ROLLIN C. WILSON

7 E. 42nd St., New York, N. Y.
261 Franklin St., Boston, Mass.
427 N. Broad St., Elizabeth, N. J.

T B T B T B T B T B T B

AN ALL-YEAR ROUND BUSINESS— ON TANK HEATERS



No. 155
(Also in larger capacity—No. 280)

Whether it's a home, apartment house, garage or business building, there's a GLOCO Red Band Tank Heater of just the right size to supply hot water in that building. Forty-five sizes to choose from—each tested to 300 pounds and guaranteed to 125 pounds working pressure.

This comprehensive GLOCO line opens up a *bigger market* for every plumbing and heating contractor. There are tank heater prospects all the year round.

Ask your Wholesaler.

EVINS F. GLORE & SON, Inc.
Grand Central Terminal Bldg. New York City

"LOOK FOR THE RED BAND OF QUALITY"

TRADE MARK
GLOCO
RED BAND TANK HEATERS

human interest shown by members of the organization toward one another and recalled the first "Ladies' Night," which marked the beginning of a new era in association affairs. Judge Roberts, who hears all plumbing code violation cases in Philadelphia, told the members they should not only follow the rules closely but that they are obligated to help stop any violations by others.

William H. Ambrose, who served as president during 1921, was formally introduced by Harry L. Stilwell, who said of him that he never knew an officer to work harder during his year in office to increase the membership. In his remarks former President Ambrose advocated that the association should take into its membership all qualified master plumbers and educate them rather than permit them to offer poor competition.

Secretary Pflug-Felder read letters of regret from Past Presidents Durkin and Anderson and a congratulatory telegram from George H. Drake of Buffalo, N. Y., president of the National Association of Master Plumbers, who also expressed his regret at being unable to be present, as did John F. Donovan, executive secretary of the National Association.

At the conclusion of the regular business meeting, during which a letter from the 1931 convention headquarters office in Milwaukee was read and reports from the various standing committee heads were heard, among them one to the effect that Past President Durkin, who also is one of the four former national presidents from Philadelphia, is recovering from his long illness, President Feeney presented Harry Lentz, who was treasurer for seventeen years. Mr. Lentz, enumerating many of the benefits obtained through his affiliation with the association, told how, shortly after he started in business, finding himself without work, he was about to liquidate when he decided to try a store to store canvass in one of the business sections in an effort to sell gas light tips. The success he experienced convinced him he could sell and he has followed that reasoning ever since.

Herbert Packer, chief of Housing and Sanitation of Philadelphia, summarizing a survey of all plumbing shops in the city, said that of the 1,874 inspected by a corps of twenty-five inspectors from his office but 1,435 passed, with the result that 240 licensed men will not be permitted to re-register. Hearings, he continued, were granted 510 master plumbers. A number of men were found to be operating without licenses, Mr. Packer stated, and one of them had three attractive stores doing a large business. He congratulated President Feeney and the association for the spirit of co-operation shown and indicated that he would support the $100 registration fee which has been proposed.

C. W. Wanger of Woodward-Wanger Co., Philadelphia, pointed to the educational effort that the Philadelphia association is putting forth as a culmination of the efforts of the early presidents. He also asserted that the organization offers the ultimate in helpfulness and appealed to the membership to fortify themselves to meet sales resistance through study and close application.

On motion of former Treasurer Lentz a rising vote of thanks was proffered President Feeney; Treasurer Moeller, who acted as chairman of the committee in charge of arrangements with Secretary Pflug-Felder and Messrs. Boal, Hicks and Stilwell. President Feeney introduced the several representatives of the trade press. A buffet supper was served after adjournment.

Tells of Direct-to-You Investigation at Sanitary Club Meeting

P. W. Donoghue, vice president of the National Association of Master Plumbers, and president of the Massachusetts State Association, in addressing the annual meeting of the Massachusetts Sanitary Club, told of his personal investigations into the direct-to-you situation, to find out who is buying through these channels and the type and grade of material that is being sold them. The results were surprising. He found that eighty per cent of the buyers were licensed master plumbers. This investigation was made in cities of another state close to Massachusetts. Mr. Donoghue pointed out that a master plumber who buys from these sources is simply supporting a competitor. He requested the support and co-operation of every wholesaler and salesman in the effort to bring into the association all successful contractors. When these prospects are told of the work that is being done by state and local associations, through conferences at Massachusetts Institute of Technology, through legislative efforts, etc., they will see that with unity in the ranks they can more than meet the problem of direct selling.

Four hundred and eighty-five master plumbers, wholesalers and their salesmen gathered at the City Club, in Boston, Mass., on November 18, to attend the annual meeting and dinner.

James G. Gillespie, president of the club, opened the business meeting, and reports were made by Secretary Joseph Maynard and Treasurer J. Preston Perham. Newly elected officers for the coming year are as follows: James G. Gillespie, president; P. W. Donoghue, William P. Bennett and John S. Nicholl, vice presidents; J. Preston Perham, treasurer; and Joseph Maynard, secretary. Members of the new board of directors are: Representing the plumbing contractors—Frank E. Darling, Fall River; James G. Gillespie, Boston; George E. Ryan, Lynn; H. M. McGourty, Newton; P. W. Donoghue, Boston; A. E. MacDonald, Worcester; J. Cotter and J. Preston Perham of Boston. Representing the wholesalers—F. W. Hubbard, W. B. Hubbard & Sons Co.; William F. Bennett; John E. Slattery, Crane Co.; M. J. Hirschfield, Hirschfield & Mayer Co. Representing manufacturers—Morris A. Lynch, Kohler Co.; Joseph A. Maynard, Boston Brass Co.; John S. Nicholl, Riverside Boiler Works.

Russell G. Creviston of Crane Co., addressing the guests at the dinner, stated that the plumbing and heating industry is going through many changes which must be met as they come. He said that organization and rules will not solve problems, but that application of sound merchandising principles, founded on sound credit policies, will eliminate the many problems in the industry.

F. W. Swanson, Commissioner of the National Plumbing and Heating Institute, laid particular stress on the fixing of proper credit limits, suggesting that the wholesaler and contractor co-operate in the establishment of a cash list, to include contractors who are in arrears in payments for 60 days or more. This listing would make it necessary for contractors so listed to pay cash for materials desired.

E. L. Flentje, secretary of the Plumbing and Heating Industries Bureau, and newly-appointed commissioner of

This Extra Profit Can Easily Be Yours!

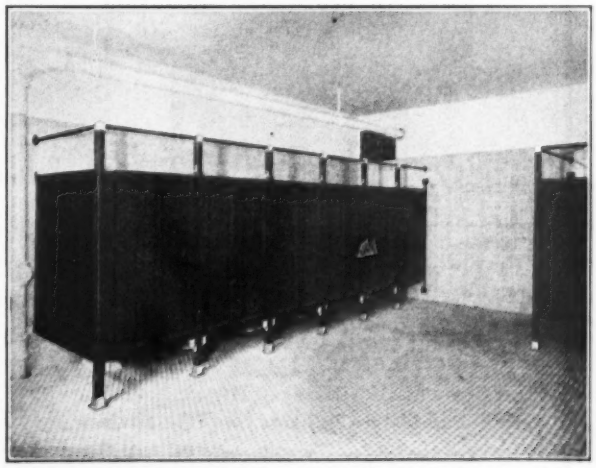
SOMEONE is making a nice toilet and shower partition profit on many commercial jobs you figure. You can very often have the partition end of the job included in your plumbing estimate.

Sanymetal Steel Partitions are ideally adapted for this purpose. The ease with which the new Unit Panel Type can be erected speeds up work. The obvious quality, faultless appearance, and simple sanitary construction of Sanymetal reflect the contractor's good judgment and naturally build good-will for him.

We are continually co-operating with many substantial plumbing concerns—helping them to get this extra profit. Write for details.

The Sanymetal Products Co.
1707 Urbana Road Cleveland, Ohio

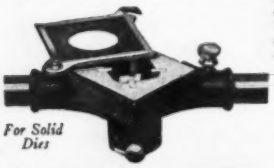
Sanymetal
STEEL OFFICE & TOILET PARTITIONS



Smooth-surfaced, Balanced—

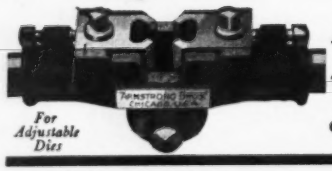
They make thread-cutting easier

ARMSTRONG BROS. Stocks make pipe threading easier for they are smooth-surfaced, fit comfortably in the hand. Bodies are of Certified Malleable Iron, are free from sharp corners or ribs, and are finished in black lacquer. Handles are burnished and dull nickeled. Guides and bushings are accurately machined, inside and out. ARMSTRONG BROS. Stocks are carefully balanced, are handy. They fit all standard dies; are furnished in all practical sizes and types for Solid or Adjustable Dies.



For Solid Dies

Write for Cat. P-10 which shows and describes a full line of improved pipe tools.

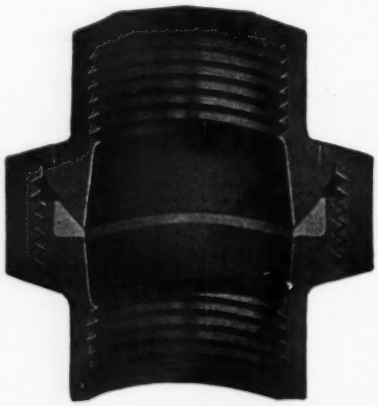


For Adjustable Dies

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
323 N. Francisco Ave.
Chicago U. S. A.

ARMSTRONG BROS.

IMICO UNIONS



NOTE THE BRASS DISC

Made of refined Malleable Iron with Brass Seat inserted in place by powerful pressure so that it cannot become detached.

Approved by Underwriters' Laboratories.

ILLINOIS MALLEABLE IRON CO.
Chicago, Ill.
Manufacturers Full Line Iron Pipe Fittings

the National Plumbing and Heating Institute, in his address, said that in his opinion the mail order house is the greatest problem in our industry. The mail order house, he said, really is not a competitor of the master plumber, but rather may be used as one of the finest weapons the plumber has in creating sales. To meet this competition, everyone has a standard of comparison, which enables him to tell the difference between good and inferior quality of merchandise. By dramatizing his merchandise and applying good salesmanship, the master plumber can easily meet direct selling competition.

H. G. Starr, president of the National Plumbing and Heating Institute, gave a sketch of the development of plumbing during the last fifteen years. He urged the master plumbers to take advantage of the national advertising of manufacturers, as this advertising goes a long way toward breaking down sales resistance. He pointed out that formerly plumbing was placed in the darkest corner of the house, while today the bathroom has become the most important and beautiful room in the home. He also discussed the credit situation, and stated that a master plumber who does not meet his obligations is probably one who is lax in making his own collections. Leo M. O'Neil, president of the Eastern Supply Association, made a plea for all to back up fair trade practice rulings. James S. Cassedy, past national president, pointed out that unsound credit will wreck the staunchest of structures, and that manufacturer and wholesaler must beware or they will be carrying a load that cannot be lightened. J. J. Crotty, a director of the Plumbing and Heating Institute, expressed his pleasure at being present at the meeting, and in being able to help in the work of the Institute.

J. C. McEwen, treasurer of the Plumbing and Heating Institute; Thomas O'Callaghan, president of the Heating and Piping Contractors Boston Association, and Walter H. Oleson, manager of the Heating and Piping Contractors Boston Association, were also invited guests at the Sanitary Club's dinner.

An interesting feature of the meeting was a one-act play, a dramatization of various steps in the relations of the plumbing contractor and the wholesaler's salesman.' The play, under the direction of E. L. Flentje, presented two plumbers (one an optimist and the other a pessimist) and a jobber's salesman. The parts were played by Ed. Bailey, Mr. Anson and Mr. Lane.

President Gillespie closed the meeting by extending his thanks to members of the association, wholesalers and manufacturers, for the co-operation extended to him during the last year.

◆

Welding Demonstration Given at Richmond, Va.

In co-operation with the Virginia Polytechnic Institute Extension School, Virginia Mechanics Institute gave a demonstration on welding construction, accompanied by a technical lecture and showing of several reels of films recently at the Institute, 12th and Marshall streets, Richmond, Va.

The program, open to all master plumbers and heating contractors and their mechanics, began at 2:30 o'clock in the afternoon. A technical paper was pre-

sented first, which was followed by a live demonstration of actual welding.

This one-day institute on welding was held last year at Blacksburg on a smaller scale and provoked considerable comment and interest. Being on a much larger scale this year, the institute drew a considerable number connected with the plumbing and heating industry both in Richmond and nearby surrounding territory.

Professor Grenoble, in charge of the V. P. I. School at Virginia Mechanics Institute, particularly emphasized the importance of the information to be gained on this occasion and he urged all members to take advantage of it.

Stoker Installation Solves Smoke Problem

(Continued from Page 66)

should be understood that for every electrical combination already described, there is a corresponding pressure valve combination. Further regulation of the system is possible in adjusting the individual pressure switches to operate at the desired pressures.

From observing the plant operation it is evident that one of the pressure switches is set at a higher cut-in point than the other.

The installation, in effect, is a double duty job, as it

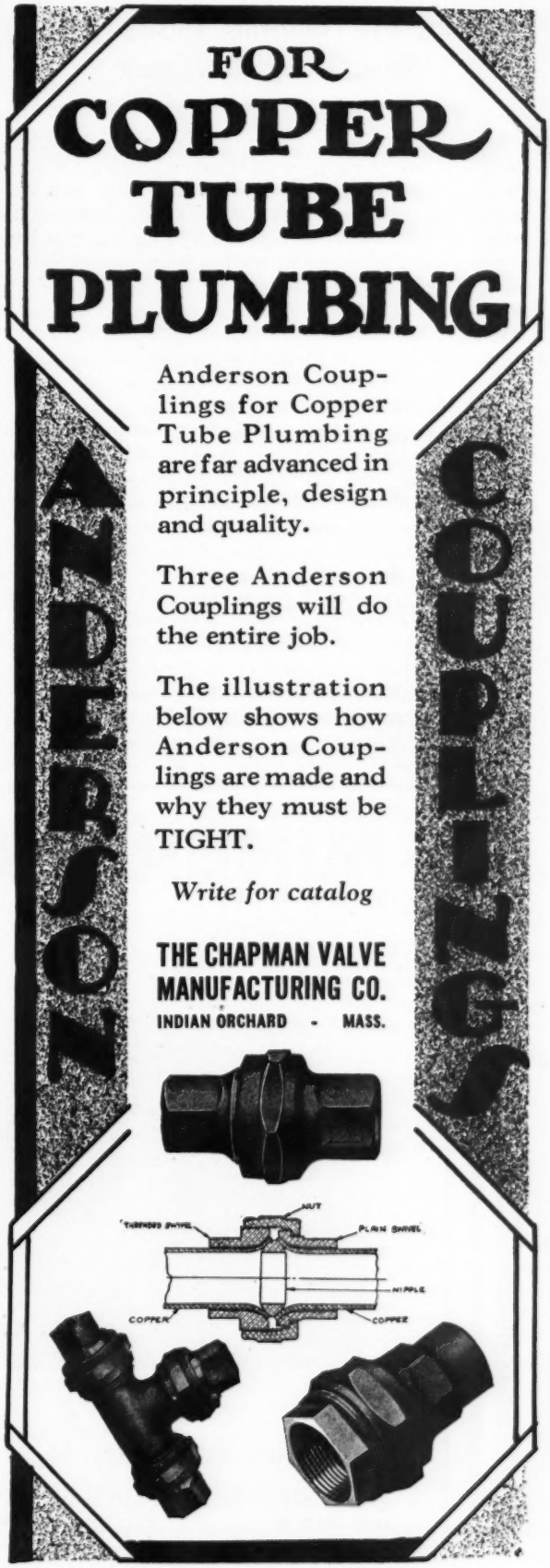
TABLE I

Operating	Close Switches	Open Switches	Neglect Switches
No. 1 Stoker Alone	M P R T	S U	N W V Q
Operating No. 2 Stoker Alone	N Q W V	S U	M P R T
Operating No. 1 and No. 2 together	Open switches S and U and close all others		
Operating No. 1 Stoker with No. 2 pressure switch and No. 2 starting switch	N Q W U T	R S V	M P
Operating No. 1 Stoker with No. 2 pressure switch and No. 1 starting switch	N S P R T	Q U M	W V

In like manner, stoker No. 2 may be operated with No. 1 pressure switch and starting switch combined or with No. 1 pressure switch and No. 2 starting switch combined, or with No. 2 pressure switch and No. 1 starting switch.

Operating No. 1 Stoker with No. 1 pressure switch and No. 2 starting switch	M S Q W U T	P R V N

is used for both space heating the building and water supply heating. The summer hot water supply also is heated by the stoker operated boilers.



Leading and Following Through in the Remodeling Movement

(Continued from Page 41)

George P. Baldwin, vice president and sales manager of Detroit Brass & Malleable Works, Detroit, Mich., wrote as follows: "Knowing that you are using your influence to further the remodeling campaign, the writer thought you might be interested in the enclosed circular, which we have mailed direct to all the plumbers throughout the Middle West. We believe that the big bulk of business which will accrue to the manufacturers and jobbers in our line during the next few months will come from remodeling."

Wm. J. Hebenstreet, manager of the Kansas City, Mo., office of The Kellogg-Mackay Company, sent a letter to contractors reading, in part, as follows: "Attached please find chart issued by DOMESTIC ENGINEERING illustrating and describing, in a concise manner, ways and means of developing remodeling business in your community. We believe with this chart before you that you can inspire your mechanics to procure information for you that will place you in position to communicate with your prospect or customer, with a view of selling them additional plumbing and heating equipment or modernizing such antiquated equipment as they are now using."

By many manufacturers and wholesalers the booklet and the charts were made the subject of sales meetings, furnishing the men with these definite data to carry with them into the field.

After the period of preliminary education and preparation, DOMESTIC ENGINEERING feels that its "follow through" effort on remodeling has met with response far beyond its expectations. These expressions from the industry itself stand as the best evidence of the fact that it does know how to use constructive material when such material is made available.

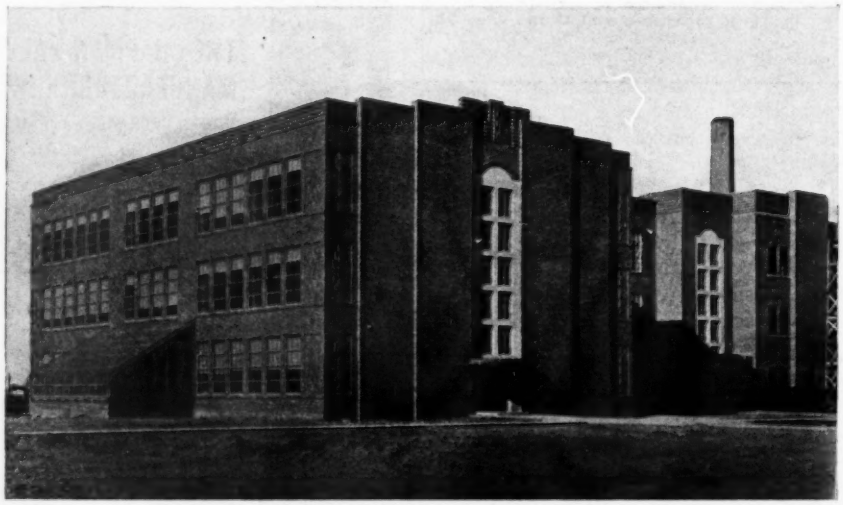
And, quite apart from any feeling of satisfaction in having had a part in pointing the way to a great market (a market which is not going to be neglected in the future, we are sure, no matter what levels new business reaches) is the satisfaction that the actual application of the information so patiently gathered and disseminated, has produced business, has helped put into the homes of consumers plumbing and heating products by way of sales which would otherwise never have been made. It is heartening to know that such co-operation is possible in our industry between those whose duty it is to point the way and the men who are responsible for the practical application of plans in producing sales.

◆

Milwaukee Association to Elect Officers

Officers of the Milwaukee Master Plumbers' Association will be elected at the annual meeting of the organization, to be held December 16 at the Builders' Exchange. Installation of officers will take place at the first meeting in January.

MINERAL FELT *for every insulating need*



THE JOHN J. PERSHING HIGH SCHOOL, DETROIT

Another outstanding installation (complete) of Mineral Felt Insulating Products.

The MINERAL FELT INSULATING CO.
2248 Albion St. TOLEDO, OHIO

Have you the Mineral Felt Data Sheets on file? If not we'll send them on request.

Philadelphia Health Department Inspects Plumbing Shops

The Master Plumbers' Association of Philadelphia, Pa., is supporting the Philadelphia department of health in an inspection of all plumbing shops within the city. The work of inspection, an effort to raise the standards, is going forward rapidly and a number of shops have been condemned, the proprietors being obliged to put them in presentable shape. The plan also involves the bonding of shops and the raising of the registration fee to $100.

◆

N. J. Masters See Steel in Making

Wednesday evening, November 19, motion pictures showing the making of pipe and steel sheeting were shown as the entertainment feature following a meeting of the Master Plumbers' Association of the Oranges in the Masonic building, Orange, N. J. Wives and sisters of members were guests, also a number of wholesalers' representatives.

Pictures were also shown of scenes at the recent National convention at Boston and the recent state convention at New Brunswick. George H. Brenner, president of the association, was master of ceremonies. The entertainment committee was composed of A. T. Brady, Thomas Chalmers and A. G. Trapper. Refreshments were served with the assistance of the members of the Women's Auxiliary.

The motion pictures were shown through the courtesy of the Youngstown Sheet and Tube Company, of Youngstown, Ohio.

◆

Massachusetts Chapter, A. S. H. V. E., Hears Discussion on Welding

The November meeting of the Massachusetts Chapter, American Society of Heating and Ventilating Engineers, was an especially large one, as the engineers had invited members of the Heating and Piping Contractors Boston Association to attend the affair. The group assembled on Monday evening, November 10, at the Cambridge Industrial Association's dinner room in Cambridge, where the 150 present were the guests of the Baker Supply Company of Cambridge, Mass., at a delicious turkey dinner.

Following the dinner W. T. Jones, who presided in the absence of President McCoy, introduced Mr. McCarthy of the Baker Supply Company. Mr. McCarthy gave the principal address of the evening, a paper on welding practice and possibilities. Following the usual question and answer period, the meeting closed with a demonstration of pipe welding by the Air Reduction Sales Company, both standard and thin wall pipe being welded.

Sales Meetings Reward Big Contractor

THE Thomas Haverty Company of Los Angeles, Calif., is one of the largest operators in the plumbing and heating contracting field in this country. One of the chief factors in the upbuilding of this concern is the spirit which permeates the entire organization, from top to bottom; and one of the underlying reasons for this spirit is the enthusiasm gained through the medium of their sales meetings.

These gatherings are not in any sense comparable with the so-called "pep meetings" affected by a number of selling organizations, where the sales manager pumps the men full of high pressure ideas and closes the meeting with a "pep song." On the contrary, every sales idea put forward at the Haverty meetings is dissected and analyzed for merchandising helps.

The meetings take place every Monday night from 7:30 to 9:00, although they frequently last until 11:00 o'clock when some particularly knotty problem has to be threshed out. The attendance averages sixty persons, more than half of whom are estimator-salesmen—those who not only do the actual selling but, if necessary, can get into overalls and handle the job, themselves. The balance is made up of those who are indirectly connected with the sales force.

These gatherings are held under the direction of the sales manager, Scott E. Johnston. Some idea as to the range of subjects covered in, say, air conditioning and its allied branches will be gained by quoting a few—ventilating, temperature control, air velocities, air washers, humidity, refrigeration. While these are largely of a technical nature, nevertheless some new viewpoint is usually developed which not only adds to the available fund of information but also assists in the presentation of the subject to the owner's representative, particularly if he, himself, is a technical man.

"We aim to teach our force the fundamentals of selling without recourse to high pressure salesmanship which is so commonly confused with practical sales methods," says Mr. Johnston. From three to four definite assignments are given out to certain men sixty days in advance of the meeting at which they are scheduled to talk. When the time comes, these men are well prepared. Frequently their talks take the form of selling some member of the group, after which each method is criticized and suggestions offered for their improvement.

The educational value of these meetings is undisputed. "Know your merchandise" is the keynote of this activity. With the idea of gaining intimate knowledge of the various steps concerned with the manufacture of various classes and types of goods, tours of inspection are made through the different plants in the vicinity.

While familiarity with various kinds of merchandise is regarded as highly essential, the creation of specialists along certain lines is likewise considered of prime importance. Toward this end the foremen, in particular, are given a broad education in the theory of their work; and as they already know the practical end of it, this combination enables them to create a more favorable impression for their company in the eyes of the architect, owner, or other interested person on the job—this, of course, in addition to increasing their own efficiency.

The classes were started in 1923 and have proved of

A Plumber Named It!

THE FIRST ONE WHO SAW OUR NEW FIREPOT

Water Heater

SAID:

"HOT DOG"!

"That's the Shape I Want, and With No Leaky Joints!"

No. 1 Iron	$1.25
" 2 "	1.45
" 1 Brass	2.75
" 2 "	3.50

20 to 60 Gal. Cap. ¾" or 1" Tappings 9" Centers

TO WHOLESALERS!
Hav'em You'll Show'em!
Show'em You'll Sell'em!

CAST BY

The RICHMOND FOUNDRY & MANUFACTURING CO *Inc.*

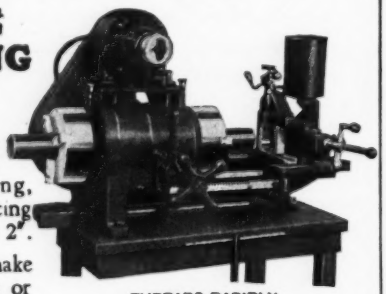
RICHMOND, VIRGINIA

"A DEPENDABLE SOURCE OF SUPPLY"

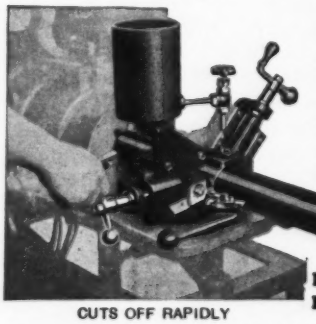
CUTS PIPE THREADING COSTS!

A full-fledged Portable Pipe Machine for Reaming, Chamfering, Threading and Cutting Off pipe from ⅛" to 2".

Uses any standard make of solid square right or left hand pipe or bolt dies.



THREADS RAPIDLY



CUTS OFF RAPIDLY

Weighs 250 pounds. Operates off either A. C. or D. C. lighting circuits. Is sufficiently powered to drive geared heads on the larger pipe, up to 6 inches. A real pipe machine at a price you can afford. Ask us about it today. Give us the name of your supply dealer.

PEERLESS MACHINE CO.
Racine - Wisconsin

Eastern Canadian Representative:
J. Edwin Newsome, 161 Castlefield Ave., Toronto, Ont., Canada

"CHICAGO"
Pipe Threading Machines Production Precision
Latest and Most Advanced Types on the Market
Chicago Pipethread Machine Co., Racine, Wisconsin
Offices and Factory: 1621 Racine Street

inestimable value to the firm as well as the employes. "These meetings keep the men up on their toes—alert and aggressive," says Mr. Johnston. "The lack of this training is especially noticeable during the summer vacation period when the meetings are temporarily discontinued."

◆

Utah State and Salt Lake City Associations Change Names

Articles of incorporation were adopted by the Utah State Association of Sanitary and Heating Engineers and the Salt Lake City Association of Sanitary and Heating Engineers at meetings of those organizations held November 6 at the joint suite of the associations in the Hooper building, according to W. A. Rupea, executive secretary of both organizations.

Both associations decided to change their names with the forming of a corporation. In the future the state association will be known as the Utah Plumbing and Heating Contractors' Association and the other as the Plumbing and Heating Contractors Association of Salt Lake City.

The name "Sanitary and Heating Engineers" came in for considerable criticism from a number of delegates. The objection was made that the term did not correctly express the vocation of the members; that the general public did not understand that it referred to plumbing and heating contractors.

President Higham presided at the meeting of the Utah Association and President Whitely at the meeting of the Salt Lake organization.

Mr. Rupea reported that he had made three trips to Logan to further the formation of an association in that city. Messrs. Ball and Peterson of that city briefly addressed the state meeting.

The articles of the two organizations are substantially the same, the principal exception being that the Salt Lake City association will include plumbing and heating contractors of Salt Lake County only, while the other organization will of course include the entire state.

The organizations are incorporated for a period of fifty years, as non-profit corporations.

The objects of the organizations are to promote the general welfare of the plumbing and heating industry in their respective territories, and for such purpose to co-operate with city, state and national officials, in the enforcement of all laws and regulations relating to sanitation; to collect, compile and distribute to members, public officials and the general public, information relative to the installation of sanitary and heating equipment and appliances and to encourage state and municipal legislation for the enactment of better sanitary laws; to assist members in any matters affecting plumbing or heating contracts or supplies; to obtain for and furnish to the members credit information and services; to promote amicable relations between members and employes; to promote the maintenance of a sanitary code at as high a standard as the progress of science and the development of chemical and mechanical knowledge teach; to promote fair and proper trade

practices and to do all things else that might be co-operatively done to further the general welfare of the plumbing and heating industry and make the same more serviceable to the public at large.

The following are officers, directors and trustees who will serve during the first term for the Utah association: President, A. Higham, Salt Lake City; vice president, Carl Blaes, Ogden; secretary-treasurer, Joseph F. Carthey, Salt Lake City. Board of directors: Val W. Palmer, Logan; Edmond G. Harris, Salt Lake City; Leo S. Holbrook, Bountiful; A. H. Higham, Salt Lake City; Henry G. Blumenthal, Provo; A. E. Hurd, Salt Lake City; Carl Blaes, Ogden. Board of trustees: G. W. Bruerton, Will Rees, J. L. Rasmussen, Salt Lake City; E. K. Ferguson, Spanish Fork; Val W. Palmer, Logan.

Here are two pictures sent us from widely separated parts of the country, but both having to do with out-of-door sports. Above is H. W. Strader, of Minneapolis, president of the Minnesota Retail Plumbers' Association, and Mrs. Strader. Mr. Strader is an ardent fisherman and hunter. The lower picture shows Paul Elmore of Albany, Ga., secretary of the Georgia Master Plumbers' Association, holding two rock bass, each weighing over 24 lb., which he caught in the Flint river

The officers of the Salt Lake City Association are: President, G. M. Whitely; Vice President, Joseph F. Carthey; Secretary-Treasurer, C. J. Dietz. Members of the board of directors: Messrs. Whitely, Carthey, H. H. Bockholt, A. H. Higham, Will Rees, Marshall Erickson, G. W. Bruerton. The trustees of the association are: Will Rees, P. P. Erskine and Joseph F. Carthey.

◆

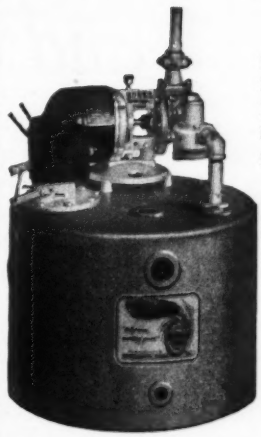
Now in New Location

Wm. C. Groeniger & Associates, consulting sanitary engineers, have moved their office from 400 Franklin building to 3250 A. I. U. Citadel, 50 West Broad street, Columbus, Ohio.

BURKS SUPER-TURBINE PUMPS

ONLY ONE MOVING PART

SAFE AND DEPENDABLE



SERIES 4700

Mount the Burks Super Turbine Pump on TOP of the receiver tank. Its powerful suction, even when handling hot water will give you performance that is unsurpassed.

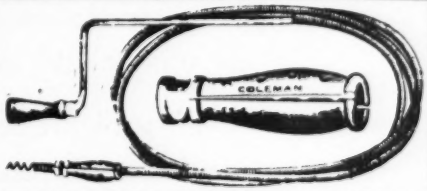
Condensed steam promptly and surely returned to the heating boiler *automatically*.

The Burks will not steam bind because it pumps air alone to its full rating. Let us tell you more about the Burks Pump for condensation service.

Write today for Bulletin No. 91, which describes this new Condensation Return Unit fully.

DECATUR PUMP COMPANY DECATUR, ILLINOIS

Flexible Coil Wire Sewer and Pipe Auger with an automatic grip handle.



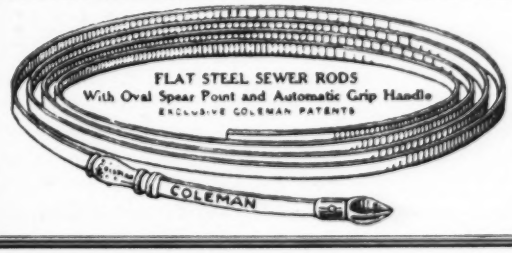
LOOK FOR OUR CATALOG IN PLUMBING & HEATING CATALOG

You can get extra dollars out of every job you do with Coleman Sewer and Drain Pipe Cleaning equipment, because Coleman equipment lets you do it quicker, more thoroughly and with greater satisfaction to your customer.

If you haven't full information on the complete Coleman line, ask your jobber about it or write direct for prices, etc.

Allan J. Coleman

208 N. Wabash Ave. CHICAGO, ILL.



Doing one thing—
and doing it well

Why have Sloan Flush Valves attained such amazing popularity?

In what respect do they differ from any other valve which will flush a closet bowl?

The answer is to be found in twenty-five years of specialization by men who know their business. Manufacturing flush valves *exclusively,* the Sloan organization has acquired a knowledge of flush valve requirements and a breadth of flush valve experience which are unique and unapproachable.

This wealth of knowledge and experience has been applied to furnish *a flush valve for every purse and purpose*—and today the Sloan line provides for the specific needs of any installation most accurately and economically.

The vast majority of flush valve buyers have discovered this truth. Others are invited to make comparisons and satisfy themselves of the certainty of Sloan superiority.

SLOAN VALVE CO · CHICAGO

BRANCHES IN ALL PRINCIPAL CITIES

ROYAL · MARINE · STAR · NAVAL · GEM · FLUSH VALVE

MARKETS

BUSINESS REPORTS FROM LARGE JOBBING CENTERS

REPORTS from the country's leading jobbing centers indicate that in the past fortnight new orders for boilers and radiators were not as numerous as during the preceding like period, and it seems from most reports that the seasonal peak for the heating materials branch of the industry is in the background. Colder weather toward the closing days of the period, however, stimulated activity to some extent, particularly for repair parts, and the heating industry continued to hold the spotlight in the matter of sales.

No major price changes occurred during the two-week period. Several manufacturers of plumbers' brass goods issued formal sheets putting into effect the advances announced about three weeks ago, according to reports from the New York territory. Contractors' requirements for plumbing materials were changed little from the level that has existed for the past several weeks. Manufacturing sources are in possession of sufficient stocks to supply distributors on short notice. While jobbers are paring their stocks in the face of approaching inventory-taking, contractors are generally able to secure material without delay.

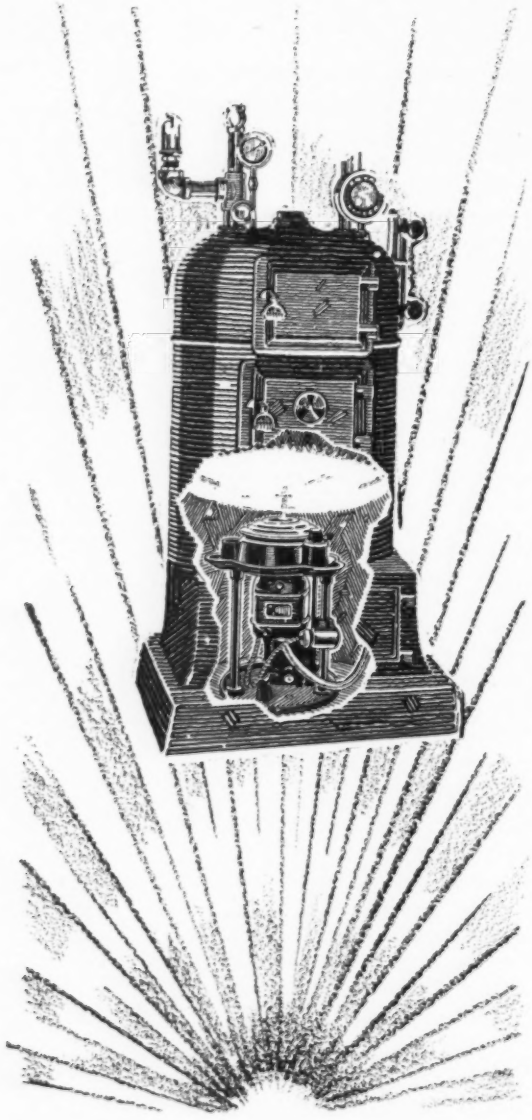
In his annual message, President Hoover told congress in effect, that good times are just around the corner. He enumerated various indications that the tide has already turned and made clear his belief that a fair degree of prosperity will have been restored by summer. Particular stress was given the unemployment situation, regarding which the President recommended an increased appropriation of government funds for employment in constructive activities.

November contracts for new construction of all types awarded in the 37 states east of the Rocky Mountains totaled $253,573,700, according to F. W. Dodge Corp. This compared with $337,301,400 in October and $391,012,500 in November 1929. Of the November, 1930 total $101,096,000 was for new non-residential buildings; $80,781,900 for residential structures; and $71,695,800 for public works and utilities. Total new construction contracted for during the first eleven months of 1930 was valued at $4,275,598,600 as compared with $5,437,922,400 for the corresponding eleven months of 1929.

Of the thirteen Dodge territories, eleven showed declines in November from both the preceding month and November, 1929; the New Orleans territory alone showed gains over both periods; while the Pittsburgh district showed a gain over November, 1929 and a loss from October, 1930.

Production of range boilers in October, as reported to the Bureau of the Census by 13 manufacturers, having a daily productive capacity of 6,960 boilers, the value of whose output constituted approximately 80 per cent of the total for the industry, was 47,718 as compared with 44,597 in September. .....October shipments of oil burners as reported to the Bureau of the Census by 50 manufacturers whose output constituted 60 per cent of the total for the industry in 1927 amounted to 14,064 as compared with 12,025 in September and 15,037 in October, 1929.

SIMPLE



SUNFLOWER HEATER

The Sunflower is simple.

The fuel oil goes direct from the tank to the combustion chamber, without extra pumps or gadgets of any kind.

It requires less piping than any other burner.

The pipe is copper—there is no corrosion or rust.

The Sunflower gives radiant heat.

Radiant heat means that all the heat units are used.

Radiant heat means that the heat waves reach all sides of the fire box—they are applied where they will do the most good.

Because of this the Sunflower is economical.

It is easy to install.

It is a moneymaker.

Write for details—*now*.

THE SILENT GLOW OIL BURNER CORP.
Hartford, Conn.

Please send me information about the Sunflower Heater.

Name.....

Address.....

City..... State.....

D.E. 12-30

The Silent Glow Oil Burner Corporation

Hartford, Conn.

MIDDLE ATLANTIC

Moderate Pace Is Maintained

THE past 30-day period slowed down considerably in comparison to the previous one, in the point of turnover of plumbing and heating materials for this section. During October, quite a sustained demand was felt by wholesalers for materials, principally of course heating materials, although finishing goods such as plumbing fixtures also enjoyed a fair turnover.

With the advent of the past month, contractor demand reverted back to the spotty condition characteristic of the last half of 1930. Selling representatives in this section are of the opinion that October business was due in a large measure to the completion of building projects, and the desire of wholesalers to replenish practically depleted stocks sufficiently to carry them over the inventory period. The Baltimore and Washington section apparently is still quite active in the erection of government buildings, evidently being the first section to feel the new government construction program.

The recent advance in the price of copper and the slight rise in the price of brass pipe around the middle of last month failed to stimulate to any extent buying on the part of the trade, according to wholesalers' representatives. The approach of inventory taking has evidently suppressed purchases, coupled of course with the recession in demand. Inventories on hand among dealers have been at low levels for several months. The copper advance has created much comment and opinions expressed by those interviewed are that a stimulation in buying activity will be effected after the first of the year, with the realization of the possibility of general price advances. It is also the rather general opinion that contractors will be able to close specific jobs which have been pending due to the owners' hesitancy in definitely committing themselves, and that this should cause a stimulation in contractor demand and activity.

Boilers and radiators and their allied products continue to lead the field in turnover, according to reports, but a slackening in the pace has been very noticeable. Manufacturers characterize the present market as a spotty one, with a fair volume during the past fortnight. No announcements of price changes have been made for these items. Steel and wrought iron pipe tonnages have receded in the last thirty days, this season being a normally lull period, but a firm price situation is existent. The past two weeks witnessed a firmer stabilization of soil pipe quotations, and while the turnover in this product is small dealers are of the opinion that the firmer price structure indicates a more healthy condition for sales. Range boiler sales continue to be slow, but firm prices are still maintained for these goods.

Commitments for finishing materials such as brass goods, pottery, and enameled ware were spotty, during the month and fortnight, stock orders received by manufacturers being light, although some activity persists in so far as specific operations are concerned.

According to Dun's Review, the total building contracts during October in the United States were approximately $93,000,000, compared to $147,000,000 for the same month last year. The big drop in volume apparently was in the North and Central West, and along the Atlantic Seaboard.

F. W. Dodge Corporation reports an increase in building contracts awarded during the 44th and 45th weeks from November 15 to 29th. A total monetary volume in contracts awarded for the 44th week amounted to $12,172,100. The bulk of this total was awarded for public work and utilities, which was $5,884,200. For the 45th week a total of $5,041,500 in contracts was awarded.

Credits are reported as being much better in this section at the present time than they were earlier in the year. Business and real estate conditions as they have been during the past several months, have caused a tightening on the part of bank and financial institutions in so far as mortgage money is concerned, and wholesalers have also restricted their credit appreciably, not being prone to allow an extension of time on any operation of a speculative nature. Collections are characterized as slow in many instances.

CENTRAL WEST

Heating Business Holds Fair Pace

THE fortnight just passed was more satisfactory from a sales standpoint to manufacturers of heating equipment than to producers of plumbing material. Wholesalers, too, indicated a bigger turnover of boilers, radiators and allied products than they did of plumbing finishing materials such as enameled ware, pottery, plumbers' brass goods and other finishing items. In the contracting branch of the industry much the same conditions prevailed.

Business in the heating line, at least so far as new sales are concerned, appears from most reports to have passed the high point of the year, and during the past two weeks orders reaching manufacturers were said to show a downward tendency. Each cold snap, though, is said to bring out a fairly active call for repair parts, which has helped to hold volumes at a fairly good level.

Buyers for wholesale houses are giving more attention of late to the condition of their stocks due to the fact that inventory is now just around the corner. As a general rule they are not placing any business with their sources of supply other than that which is needed to take care of actual requirements. Reports indicate that jobbers have displayed little willingness to anticipate their future needs by ordering material for shipment after

inventory-taking is completed. In the majority of cases distributors in this territory, while curtailing their purchases, are in possession of sufficient supplies to take care of their customers without delay. Manufacturing sources, while working on curtailed production scales in numerous cases, are ordinarily able to grant quick replacements to their distributors.

No price changes were announced by manufacturers of the major commodities during the period, and as a whole, the market maintained a firm tone. The continued strength in the copper market tended to stiffen prices on products made from the red metal, according to reports.

The movement of soil pipe was moderate during the period, according to manufacturers and wholesalers, and the same was said of wrought iron pipe and most types of fittings. Steel pipe sales held fairly well as a result of the activity of heating contractors and the same condition accounted for a fair turnover of cast iron fittings.

As previously mentioned, enameled ware, pottery and plumbers' brass goods moved at only a fair pace for this season of the year. Range boiler demand was moderate, with prices reported firm at the published sheets of manufacturers.

In his annual message to congress President Hoover, in speaking of the extent of the business depression, said in part:

"The extent of the depression is indicated by the following approximate percentages of activity during the last three months as compared with the highly prosperous year of 1928:

	Per Cent of 1928
Value of department store sales	93
Volume of manufacturing production	80
Volume of mineral production	90
Volume of factory employment	84
Total of bank deposits	105
Wholesale prices—all commodities	83
Cost of living	94

The President points out further that: "Various other indexes indicate total decrease of activity from 1928 of from 15 to 20 per cent." That the President anticipates an early return to normal business is indicated by his statement that "Our immediate problem is the increase of employment for the next six months and new plans which do not produce such immediate result or which extend commitments beyond this period are not warranted."

November contracts for new construction of all types awarded in the Chicago territory (Northern Illinois, Indiana, Iowa and Southeastern Wisconsin) amounted to $29,746,000, as against $33,409,600 in October and $44,196,300 in November, 1929.

The Central Northwest (Minnesota, the Dakotas, Northern Michigan and Northwestern Wisconsin) showed November construction awards at $4,851,000, as compared with $5,370,000 in October and $11,166,500 in November of last year.

November contracts in the St. Louis district (Southern Illinois, Eastern Missouri, Northeast Arkansas, Western Tennessee and Northwest Mississippi) were valued at $11,699,500 as against $29,980,800 in October and $12,889,400 in November 1929.

NEW YORK

Remodeling Aids Turnover

NOTWITHSTANDING some appreciable decrease in new building in this area during the year, it is reported by several wholesalers that volume, especially in the last three months, has closely approximated that which obtained during the final quarter of 1929. This is attributed in large measure to the remodeling of many buildings which had obsolete equipment, and further to the necessity of large scale repair work in buildings erected during the start of the boom in 1921 and later.

In this connection an interesting fact is pointed out by several interests interviewed and this is that in the period of 1917-20 there was very little new construction, mainly due to the fact that permits were issued only for buildings which had relationship to war activities; consequently there has been a corresponding period during which there has been very little call for replacements and renovations. It is felt that from now on the industry will be benefited in an increasing ratio in connection with repair work on buildings eight to ten years of age or more. Such business is considered relatively more profitable than that of large scale new operations, and tends to offset the decline in turnover occasioned by lower volume in building, in the opinion of many.

There has also been noted an increasing tendency on the part of home and apartment house owners to improve the heating and plumbing systems, not only from the standpoint of convenience, but also because the economy in such procedure lends a high rate of return in percentage on the money so invested. Further, such expenditures enhance rental and sales values, and there is a growing inclination noted, especially in the outlying communities where the trend of individual taste and tendency is more easily followed by resident wholesalers, to expend money on practical objects rather than on investments and luxuries.

During the past fortnight the seasonal increase in demand for heating materials has largely spent itself, in the opinion of many wholesalers, although the advent of cold weather in the last few days again quickened the pace perceptibly. In the suburban areas the construction of one-family houses has slackened considerably, but there are some finishing operations going on in quantity in Weschester County and in two sections of Long Island.

Payments are reported by manufacturers as being satisfactory, while wholesalers state that collections are fair; the slight lag in payments being experienced at this time is attributed to the increased operations of contractors during the past sixty days wherein final payments by owners are not called for until the jobs are completed.

There have been no price changes

in this territory during the past fortnight aside from the issuance of several formal sheets of brass manufacturers putting in effect the advances announced about three weeks ago. The new base on nipples is being firmly maintained by all interests. Activity in boilers and radiation was the outstanding characteristic of the fortnight in this territory.

Construction contracts of all types awarded during November in the metropolitan area of New York totaled $56,702,200, according to F. W. Dodge Corporation. In October construction contracts awarded in this territory were valued at $80,053,300 while in November, 1929, contracts totaled $150,658,900.

Of the November, 1930, total $33,092,300 was for new residential buildings; $14,110,100 for non-residential buildings; and $9,499,800 for public works and utilities. Residential building awards in November, totaling $33,092,300, compared with $46,114,700 in October and $38,856,100 in November, 1929.

For the eleven elapsed months of 1930 contracts of all types awarded in the metropolitan area were valued at $876,401,400 as against $1,135,761,900 for the corresponding eleven months of 1929.

NEW ENGLAND

Present Movement Lacks Zip

REPORTS from the majority of wholesalers and representatives of manufacturers supplying the New England territory indicate that conditions surrounding the plumbing and heating industry have not changed in any large way during the several foregoing weeks. Consumption requirements show gradual diminution as the colder weather sets in, and shipments from local distributing points are consequently of lighter tonnage than heretofore.

Demand on the part of master plumbers for roughing-in items is more or less inanimate and such inertia is reflected in foundries' and distributors' statements of falling-off in their November sales. There continue to obtain fairly active dispositions of enameled ware and pottery by jobbers and manufacturers, the bulk of this material being special ware entering into specific operations incepted some time ago. A fair amount is also going into replacement developments. Heating equipment has held a prominent position in wholesalers' shipments for there has obtained quite a substantial amount of renovation work abetted by the seasonal volume, though somewhat under proportioned, in the way of new construction.

F. W. Dodge and other statisticians of construction activities show that the past two-week period was not very lucrative, in comparing building awards against previous weeks of this year and also of former years. On the other hand, there are reasons for realtors, gen-

THE STOCK MARKET

Range for Week Ending December 6, 1930†

Par Value	1930 High	1930 Low		*	Weekly High	Weekly Low	Weekly Close
NP	156⅜	91⅝	Air Reduction Sales Co	A	106½	100½	100½
NP	39¾	18	American Rad. & Stand. San. Corp	A	20¼	18¾	19
25	100⅞	29	American Rolling Mills Co	A	35⅞	33¾	34⅛
50	81½	33	Anaconda Copper Mining Co	A	37¾	34¾	35
NP	40½	23½	Bastian-Blessing Co	C	27¼	27	27
NP	110¼	58½	Bethlehem Steel Co., com	A	64¾	59⅝	59⅝
100	134	115	Bethlehem Steel Co., pfd	A	120¼	118¼	119¾
NP	30⅝	11	Brunswick-Balke-Collender Co	A	11	11	11
NP	112⅝	37⅝	A. M. Byers Co., com	A & E	46⅜	42	43½
100	114	106¾	A. M. Byers Co., pfd	A & E	106¾	106¼	106¾
100	127⅛	102½	Century Electric Co., com	F	103½	103½	103½
50	4¾	1	Chicago Nipple Mfg. Co., "A"	B	2¼	1	1
50	1½	1	Chicago Nipple Mfg. Co., "B"	B	1	1	1
25	45	39¾	Crane Co., com	C	40	40	40
100	119½	113	Crane Co., pfd	C	115	114½	115
20	21	5¾	Eagle-Picher Lead Co	H	5⅞	5¾	5¾
NP	39¾	5½	Fairbanks Co., pfd	A	7¾	5½	5⅝
NP	50½	22	Fairbanks, Morse & Co., com	A	24	23¾	24
100	111½	102	Fairbanks, Morse & Co., pfd	A	110	110	110
NP	20	10⅜	Greenfield Tap & Die Corp	B	11⅜	10⅝	10⅝
NP	29	16⅞	Iron Fireman Mfg Co	C	17½	16⅞	16⅞
NP	148⅝	61¾	Johns-Manville Corp., com	A	69¼	63¾	65¾
100	123¼	118¼	Johns-Manville Corp., pfd	A	121	120½	121
100	123½	118½	Jones & Laughlin, pfd	A & E	120	119¾	120
NP	76¾	39½	Minneapolis-Honeywell Reg. Co., com	A	43	40	40
NP	73	34	Modine Mfg. Co	B & C	38¾	38½	38½
NP	34	14½	Motor Wheel Corp	A	15⅞	15⅝	15½
100	189½	115	National Lead Co., com	A	119¾	118	118
100	144	138⅛	National Lead Co., pfd. "A"	A	141	141	141
100	119⅞	116	National Lead Co., pfd. "B"	A	119	119	119
NP	4½	⅞	National Radiator Corp., com	A	1	1	1
NP	11	2	National Radiator Corp., pfd	A	2¼	2	2
5	31⅜	13	Herman Nelson Corp	B	15	15	15
NP	76	60	Ohio Brass Co., "B"	B & G	60½	60½	60½
NP	30	10	Revere Copper & Brass, Inc., com	A	11	10	10¼
NP	72	40	Revere Copper & Brass, Inc., "A"	A	40	40	40
NP	3	⅝	Richmond Radiator Co., com	B	¾	¾	¾
NP	12	3½	Richmond Radiator Co., pfd	B	3½	3½	3½
NP	33	21	Ruud Mfg. Co	E	24	23¼	24
NP	37¾	19⅞	Spang, Chalfant & Co., com	A	27½	27½	27½
100	96	92	Spang, Chalfant & Co., pfd	A	96	95⅜	96
NP	32½	17	Time-O-Stat Controls Co., "A"	C	17¾	17	17½
NP	84	21	Union Carbide & Carbon Corp	A	25⅝	21	22
20	38¼	18½	U. S. Cast Iron P. & F. Co., com	A	30½	28⅛	29
NP	21	15⅜	U. S. Cast Iron P. & F. Co., 1st pfd	A	18	18	18
NP	21¼	18½	U. S. Cast Iron P. & F. Co., 2nd pfd	A	21⅛	21⅛	21⅛
NP	55	23	U. S. Radiator Corp., com	B & D	25	25	25
100	100	100	U. S. Radiator Corp., pfd	D	100	100	100
NP	35	11	U. S. Rubber Co., com	A	16⅜	14	14½
100	63⅞	21	U. S. Rubber Co., pfd	A	30	25⅜	26
100	198¾	138	U. S. Steel Corp., com	A	147½	142¼	142⅜
100	151¼	141	U. S. Steel Corp., pfd	A	146¼	145½	146
NP	9	2½	Universal Pipe & Radiator Co	A	2¾	2½	2¾
NP	42⅜	14⅝	Walworth Co	A	16⅛	14⅝	15
NP	19	6¼	Wayne Co., com	B & C	7	6¼	6¼
NP	35	24½	Wayne Co., pfd	B & C	24½	24½	24½
100	110	93	Wheeling Steel Corp., com	B	110	108	110
100	135½	131½	Wheeling Steel Corp., pfd. "A"	B	133	133	133
NP	29¾	16	Williams Oil-O-Matic Htg. Corp	C	16	16	16
NP	150¼	70	Youngstown Sheet & Tube Co	A	80	76	76

*Where listed—

A—New York Stock Exchange
B—New York Curb Exchange
C—Chicago Stock Exchange
D—Detroit Stock Exchange
E—Pittsburgh Stock Exchange
F—St. Louis Stock Exchange
G—Cleveland Stock Exchange
H—Cincinnati Stock Exchange

†If there is no trading during the current week, range represents last week recorded.

eral contractors and those engaged in the plumbing and heating industry to feel optimistic over the general outlook. For the present, the long awaited project of a traffic tunnel under Boston harbor connecting the city proper to the eastern section of Boston with a vehicular road had its inception during the last week in the razing of buildings on both sides of the harbor, preparatory to excavations; ground has been broken during the last week for the physicians and surgeons building which is one of the largest developments started in Boston for several months; foundations for the new post office building in this city are nearly completed and bids are being asked for the superstructure, which will soon engage master plumbers and heating contractors. Contract awards will be made shortly, it is understood, for one of the largest hotels ever built on Cape Cod, this being on Bass River in the Yarmouth section. Of note in contemplated construction is a group of buildings which are to house the New England Exposition of Progress, located in South Boston, and preliminary operations are scheduled for the coming week. Activities in Rhode Island, considering its size, have been fairly good as compared with the larger states of this territory which generally report some falling off in new developments and consequent inertia in the ranks of their plumbing and heating unions.

In the dearth of new construction, contractors and wholesalers have been advancing their modern ideas of rehabilitation work. A "fix-it-now" campaign has been gaining ground rapidly and such modernization propaganda has tended to fill in some of the spare moments of master plumbers and their journeymen. Real estate men in this section are effecting but few transfers as compared with previous months, and it is stated that rentals have become decreased to a point of approximately ten per cent below those in effect in December of last year.

The price situation remained comparatively unchanged during the past weeks. The copper market seemed to be in a somewhat confused state and makers' quotations, while strengthened, seemed to have but little return in the way of actual orders. Manufacturers of other commodities reported no price revisions. Wholesalers are maintaining low inventories in view of stock taking and are purchasing only as definite needs are created. Shipments from sources are being executed in satisfactory manner.

Despite the smaller volume of business, the credit situation in this territory is reported in good shape. This is due, it was said, to the alertness of credit departments and the activities of trade associations, in particular, in emphasizing the advantage of careful investigation of financial standings of the purchaser.

The heating lines are most active at this time. Range boiler sales were reported as being spotty, and only fair. Soil pipe and steel and wrought iron movements were moderately good. Pottery and enameled ware held at a fair level and orders for plumbers' brass goods declined to a small extent, it was said. All in all, the market showed little change since our last report, and business apparently is taking its regular seasonal course.

The market as regards prices is holding steadily at current quotations and no changes have been reported at this time on the part of manufacturers in their published quotations to their distributors. Jobbers' prices in this territory are, for the most part, unchanged and are closely reflecting replacement costs.

A concerted and co-operative action is being put forth by the industrial leaders in this section looking to relieving the unemployment condition, but it is felt by many that no appreciable gain will be had until after the turn of the year.

Factory shipments are being made with promptness on all staple items and no reports of delays have been made. Jobbers, while having reduced stocks, are able to meet the current demands of the trade promptly.

According to the building inspector for the city of Atlanta, construction totals for November were $167,346, which was the lowest amount for construction for this month in over ten years. October totals were $140,220.

◆

E. R. Norman, 941 Chicago avenue, Evanston, has just completed the plumbing contract awarded him on the estate of Mr. Kraus at 2837 Sheridan Place, Evanston, Ill.

SOUTHEAST

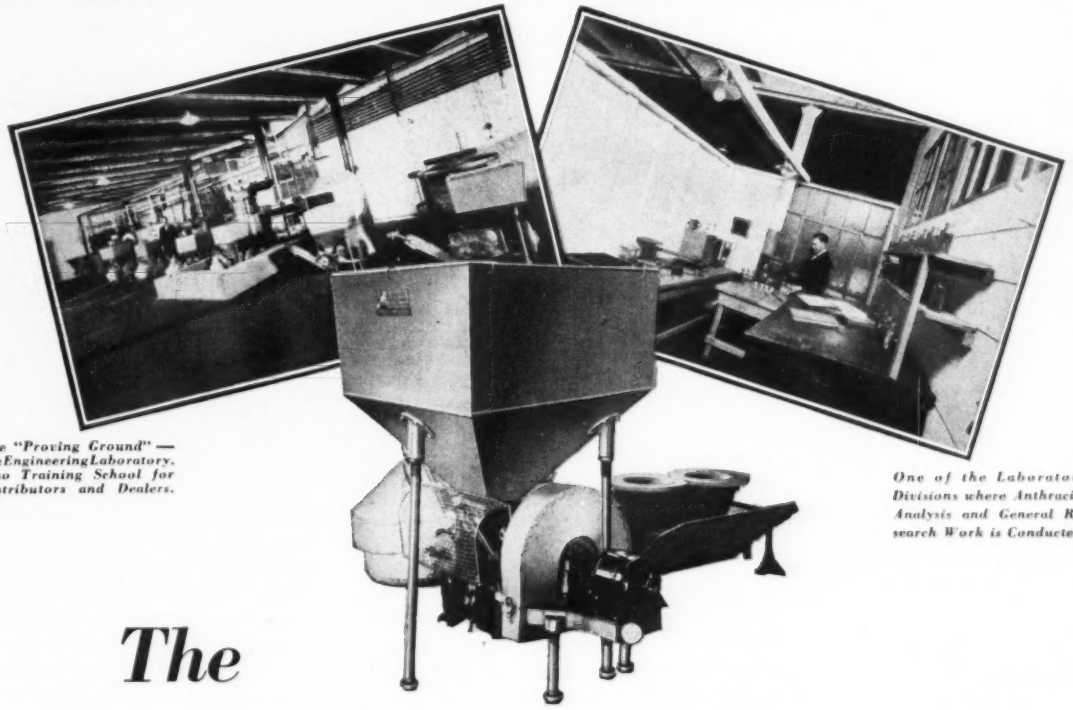
Seasonal Decrease Is Felt

PLUMBING and heating business in the Atlanta territory for the past fortnight was composed of the usual run of small spot orders, most of the large contracting firms having placed their orders for supplies in November. Business was reported as rather irregular throughout the territory. Most jobbers interviewed express the opinion that contractor orders will not advance above the present level for several weeks. Construction work showed a slight decline in the past two weeks in this territory.

Factory commitments likewise showed a falling-off, it was said, and most orders specified small quantities, featured by orders for staple materials. The feeling is prevalent among local jobbers that factory shipments in the next few weeks will show the usual seasonal decline due to the nearness to the inventory period. However, it is felt that the decline may not be so marked this year due to the reduced stocks in jobbers' bins. Repairs and modernization work set a good pace during the closing days of November, it is reported.

Jobbers are extending every effort to boost sales. Manufacturers' representatives are combing the territory in search of new business, featuring the fact that now is the time to modernize heating and plumbing systems, owing to low building costs, the availability of skilled master plumbers, and the

SATISFACTORY OPERATION



The "Proving Ground" — the Engineering Laboratory. Also Training School for Distributors and Dealers.

One of the Laboratory Divisions where Anthracite Analysis and General Research Work is Conducted.

The Result of Scientific Research

THOUSANDS of satisfactory installations throughout the anthracite burning region testify to the dependable operation of the Electric Furnace-Man. This universal reliable performance has resulted from its outstanding design of proven merit.

The Electric Furnace-Man automatically and efficiently burns the safest and most economical household fuel — Pennsylvania Anthracite, in the lower-priced buckwheat and rice sizes. The Electric Furnace-Man is the ideal means to wholly enjoyable automatic heating comfort. In operation it is safe, clean, economical and reliable.

You can recommend the Electric Furnace-Man for any domestic heating job with absolute confidence because of its outstanding record of satisfactory performance in thousands of modern homes. Authorized distributors and dealers of the Electric Furnace-Man in over 350 cities will gladly cooperate with you and furnish estimates of installation costs.

AUTOMATIC ANTHRACITE HEAT

The Electric Furnace-Man

(Patented Automatic Coal Burner)

Domestic Stoker Company · · 7 Dey Street, New York

The Metal Market

	Dec. 9	Average Oct., 1930	Average Aug., 1930	Average 1929
PIG IRON—				
No. 2 foundry, Chicago	$17.50	$17.50	$17.50	$20.00
PLATES AND SHEETS—				
Steel boiler plates, Pittsburgh, per lb.	1.60c	1.60c	1.65c	1.93c
Blue annealed sheets, No. 13, Pittsburgh, per lb.	2.05c	2.15c	2.15c	2.17c
Black sheets, No. 24, Pittsburgh, per lb.	2.35c	2.40c	2.50c	2.85c
Galvanized sheets, No. 24, Pittsburgh per lb.	2.90c	3.00c	3.10c	3.57c
TIN—				
Straits tin (spot)	25¼c			
LEAD—				
E. St. Louis	4.95c			

The Old Metal Market
Dealers' Buying Prices

	Per lb.		Per lb.
Aluminum clippings	12 c	Copper, light	7¼c
Block tin pipe	18¾c	Heavy copper and wire	8½c
Brass, light	4½c	Faucets and valves	7 c
Brass, heavy mixed	6¼c	Lead, heavy	3¾c
No. 1 comp. red brass	7¼c	Solder joints (close cut)	6¾c
Heavy crucible copper	8½c		

NOTE: Prices are those quoted on Tuesday of this week.

PACIFIC COAST

Business Is Moderate

BUSINESS developments during the past few weeks were not such as to indicate any definite turn for the better in general business conditions. On the other hand, there was not any further decline, with the result that practically no change since our last market report is in evidence.

The over-production problem on the Coast presented by petroleum and lumber has brought on a condition which is having its effect on the general trend of business. Students of these industries feel that although there is no definite sign of improvement, facts on hand indicate that an era of recovery is in sight, although perhaps this will not reach normal in all sections at the same time.

The definite movement in various Coast centers to capitalize the immense possibilities offered in modernization of plumbing fixtures is showing results and bids fair to become one of the leading outlets for this industry.

Plumbing and heating materials of all classes are plentiful and while distributors do not have heavy stocks, still the needs of the trade are being filled without undue delay.

Prices on plumbing and heating materials, generally, are reflecting replacement costs and the market is more firm in some sections of the Coast than in others. Finishing materials, such as enameled ware, pottery and plumbers' brass goods enjoyed probably the best turnover in the plumbing line. Demand for soil pipe, fittings, steel pipe and wrought iron pipe was no better than moderate during the fortnightly period.

Consigned Stocks Demoralize Markets*

THE question of consigned stocks of pipe has been brought up many times and dropped each time, probably for the reason that the wholesalers have not given the subject the very serious consideration it deserves.

There are many who believe the consignment of pipe one of the basic causes for market demoralization. This number includes many who have consigned stocks.

It must be evident to everyone interested that this method of selling, places within a territory duplicate stocks providing a total tonnage not justified by demand. The result is obvious.

Consigned stocks increase competition and lower the possibility of a fair profit.

To a large extent the mills are competing with wholesalers with purchased stocks by providing stocks where they would not otherwise exist, or at least not in the quantity provided by consigned stocks.

The mills are providing the capital to carry these stocks. The national total must involve a tremendous amount of capital and certainly must represent a considerable burden to the mills.

It would seem, in fairness to all concerned, and for the ultimate well being of our industry, that a wholesaler should be compelled to employ, in the conduct of his business, capital he can himself provide. He should be sufficiently far sighted to refuse consigned stocks and to insist on financing his own business. It would seem obvious that the wholesaler must reach this conclusion, even if he considers the matter from a purely selfish standpoint and not for the ultimate improvement of the industry as a whole.

The mills are certainly not profiting from the consigned stock method of selling their product.

The mills would probably be glad to eliminate consigned stocks if a considerable number of their distributors indicated disapproval.

Some wholesalers throughout our country have always refused consigned stocks, because they believed the principle fundamentally and economically unsound, and because they have had the courage to act according to their convictions. If the situation does not change, their continuation might well be deemed useless, and the ultimate result would be that the mills would provide the capital necessary to carry every stock of pipe in the United States, and the wholesalers become mere selling agents.

* From the Official Bulletin, National Pipe & Supplies Association.

Legal Questionnaire

Answered by "The Judge"*

Unsecured Promissory Note Which Is Not Paid in Any Way Does Not Affect Validity of Mechanic's Lien in Kentucky

Editor, DOMESTIC ENGINEERING:—Kindly give us your opinion as to the legality of a mechanic's lien for materials and labor furnished on a piece of property after the owner has given us an unsecured note which we were compelled to take up from the bank, with interest.

The owner is not bankrupt, but a creditors' committee was formed for our own protection, and as we had been given this note and had discounted it through the bank and then were compelled to take up the entire amount, the attorney asked that all mechanics take liens until the final settlement could be made.

Kentucky. C. H. P.

Answer:—In your state the mere taking of an unsecured note which is not paid, does not affect the validity of a mechanic's lien. In a comparatively recent Kentucky case the court held, under circumstances similar to your case, that as there was not any evidence that the mechanic said or did anything at the time of the taking of the note, or at any other time, to show that he waived or surrendered his lien rights, the lien was good. The court further said that in Kentucky it has been frequently decided that the mere taking of a note from a debtor did not pay the debt. It was only a new evidence of it. And the taking of a note for a debt which is a lien, or the negotiation of a note at the bank, will not impair the lien, where the payee of the note is compelled to take up the note.

In another Kentucky case the Court said: "The taking of the note has no other effect upon the lien than to suspend its enforcement until the credit given in the note has expired. It is not itself the security, the taking of which prevents the lien from attaching or destroys it under the statute. . . . In giving the lien the statute did not intend to destroy the personal obligation of the debtor, nor to prevent its being evidenced in the form of a note. The security which will prevent or destroy the lien is something in addition to this personal obligation and in aid of it, and which, so far as it is realized for the benefit of any holder of the debt, will discharge the debtor's obligation to pay it.

"The lien is given to secure the debt from the employer or owner to the mechanic or materialman. If any other security be taken for that debt there is no lien."

The above quotation of law simply means that if any security is taken with the note, or if it is paid, or if the mechanic benefits in some form of payment through the note, then the lien is affected.

On the facts as you state them, it would appear that your right to a lien has not been affected by the fact that you took a note of the owner. It would be well to seek legal advice in the situation, as the perfecting of your lien right is a complicated proceeding and you might lose your lien right by failure to take certain steps at a certain time.

It is also provided in your statutes that the statute does not apply to those cases where persons furnishing material or performing labor shall have waived in writing their right to file mechanic's or materialmen's liens. But, of course, the mere taking of a note is not such a waiver.

◆

Right of Municipal Authorities to Violate a Building Ordinance by Changing Specifications for Work

Editor, DOMESTIC ENGINEERING: We are writing you for an opinion whether a city may disregard its own ordinances. The Board of Directors of our city changed the specifications of some work being done, where tile had been specified, to cement.

We protested at the time and received an answer to the effect that the courts had ruled that no city is bound by its own ordinances, but may overstep them at any time it may see fit without affecting the validity of the ordinance in any way.

California. B. N.

Answer:—Strictly speaking a city has no legal right to disregard its own ordinances, any more than an ordinary citizen has. That is a very different thing, however, from saying that it cannot be done. You must also keep in mind the fact that many public officials are clothed with at least implied authority to use discretion in the discharge of some of their duties. Where this question of discretion, actual or implied, is concerned, the courts will not interfere with the exercise of that discretion.

As I do not know what statutes or laws your city is operating under as a municipal corporation, I shall answer your question as if an ordinance had been passed of general application which makes the use of tile instead of concrete obligatory in the building operation to which you refer in your question.

First, if the Board of Directors of your city is the body which enacted the original ordinance requiring the use of tile instead of cement, it can, of course, change that ordinance or make exception in any given case. Also, if the Board of Directors has been given discretion, actual or implied, to decide whether the building operation shall be carried on with tile or cement, it can exercise that discretion and decide to use one or the other of them from time to time.

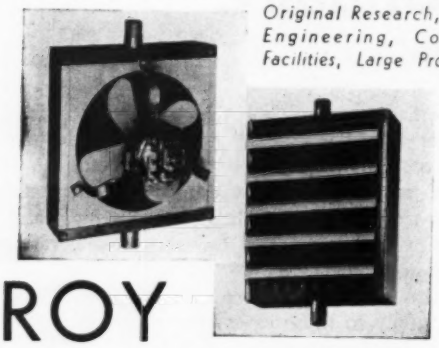
But I shall confine my answer to the general question whether a city is bound to obey its own ordinances and the remedies which may be invoked if it does not do so.

In the first place, the violation of a city ordinance does not of course affect its validity, any more than do

* **Every effort is made to the end that these answers may be authoritative. However, we cannot assume any responsibility because of the very nature of the service, which is rendered without a personal interview.—Editor.**

AUTHORITIES ON HEATING, COOLING AND AIR CONDITIONING . . . . . .

Original Research, Skilled Engineering, Complete Facilities, Large Production



KROY

Unit Heaters

Kroy Unit Heaters, in a variety of sizes and capacities, are readily adaptable for any conditions which require an overhead type.

They are equipped with Super-Fin extended surface coils. Each coil is tested to withstand high pressure. There are no joints to leak — the metal being solidly fused.

Kroy Unit Heaters have established a reputation for giving highest B. T. U. capacity at lowest B. T. U. cost. Ratings, specifications and prices on request.

YORK Heating & Ventilating Corp'n

1573 SANSOM STREET . . . PHILADELPHIA

Branches in all principal cities

LEADERS IN THE FIELD OF UNIT MANUFACTURE

In Every Remodeling Job

There's at least one Crist & Schilken article to be sold to every remodeling job. A sparkling door for shower or bath, a shower stall—***C&S*** makes them in a variety of models to suit every job and every pocketbook.

Write today for the interesting ***C&S*** book, "Shower Bath Doors." Let it help you get more remodeling dollars out of your community. A copy will be sent you without obligation, upon receipt of your request.

CRIST & SCHILKEN COMPANY

Established 1903

500-508 37th St. : Pittsburgh, Pa.

the many violations of automobile traffic regulations affect these latter regulations. We therefore come to the consideration of what can be done about the violation mentioned in your question.

As one of the eminent legal writers on municipal corporations has said: "Unless there be a valid contract creating . . . the liability, a municipal corporation is not bound to secure a perfect execution of its by-laws, relating to its public powers, and it is not responsible civilly for neglect of duty on the part of its officers in respect to their enforcement, although such neglect results in injuries to private persons which would not have otherwise happened."

While this states the law regarding the rights of citizens to civil damages, it gives us an insight into the general attitude of the law toward such violations of ordinances.

But that does not mean that in proper cases a taxpayer does not have a right to go into court and prevent the violation of law on the part of city officials. However, not every violation of an ordinances gives the right of action to anybody and everybody. In the first place, taxpayers are usually the only persons who can go into court and prevent a violation of an ordinance, and usually have to show that they have been personally injured in some way in order to succeed in their law actions.

There are several different methods which can be used, depending upon the nature of the case, to prevent violation of law by public officials. One of these is by what is called "mandamus," by which a person injured can put a stop to the violation of law, provided the violation is an actual violation and not the exercise of discretionary powers.

Another method is for a taxpayer to bring a bill in equity and secure an injunction against the violation of the law. Another form of such action is what is called "certiorari."

But in all such actions mentioned it must appear that the acts complained of are such as imperil public interests and are calculated to work public injury or to work some public mischief. I very much doubt whether the question whether tile or cement should be used in a given case would involve such question as would be sufficient to form the basis of such action in the courts.

Another, perhaps somewhat similar form of relief, is where a taxpayer or group of taxpayers go into court and secure an injunction against the payment of the city's moneys on account of a contract which is illegal and not within the power of the city to enter into. In other words, such an action would be based upon the allegation that the city should not pay for something for which it had no legal right to contract in the first place.

Any action which you might undertake would be more certain of success if the violation complained of more certainly affected public health or safety than does the difference between the use of tile or cement. As you do not state, I cannot know how important is the decision to use cement rather than tile.

As I have said, city officials in many instances, permit or commit violations of ordinances. Usually such violations, whether they are permitted or committed from an honest judgment or are evasions for the sake of political friendships, are in minor matters about which there is

little public interest. Usually, too, somebody is hurt by such violations in some manner. Technically they are illegal; but the city as a whole is not greatly injured.

From your own experience, it very probably is apparent that if every violation of a public ordinance by city officials were taken into court, the court dockets would be overburdened with litigation.

However, once in a while a case comes up in which public interest is aroused and something is done.

I have no question but that in your case, if it is sufficiently important to you, it would be possible to prevent violations of ordinances by your Board of Directors of your city, as they come up, or even after they come up by preventing the payment of the city's money for work illegally done.

At any rate, I can state emphatically that a city is as much bound by its own ordinances as any citizen of the city. But I must add that it is not every apparent violation of an ordinance which is actually a violation, for the reason that the legislative body of a city which has the right to enact an ordinance also has the power to change that ordinance from time to time or in certain

Top row: D. E. Grieg, state treasurer, Springfield; W. J. Schlegel, Belleville; Fred R. Bailey, Rockford, first vice president of state association. Bottom row: Fred Bostian, Dupo; Ben H. Niehause, American Radiator Co., Springfield; Earl Stocker, Wood River, at Belleville, Ill., zone meeting

Matchless In All America Are These Unique Fountains

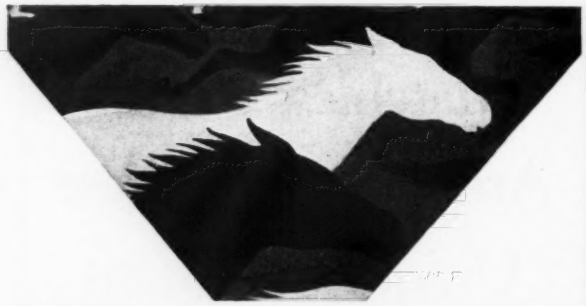
Here is truly an Automatic Drinking Fountain. In all America you will find no other like it. Permanently automatic it guarantees full wholesome drinks by the daily thousands. Through a great range of pressures, from 10 to 150 pounds, these unique fountains maintain, automatically, a normal wholesome drinking stream. Sudden splashing gushes of water have been definitely eliminated. The unsanitary, inconvenient trickle is unknown. Each turn of the handle produces a clear full stream. A clean wholesome drink!

Century Fountains have scored a national success. Health and School Authorities have enthusiastically approved them. Everywhere they are shown, architects instantly recognize their outstanding beauty. In formal black, or gleaming shades of color, Century Fountains enhance and lend a practical charm to the finest interiors. We invite you to investigate these fountains. Catalog "R" gives complete specifications and illustrates fully the entire Century line. Write for it today.

CENTURY BRASS WORKS, INC.

902 Illinois Street **Belleville, Illinois**

Century SANITARY DRINKING Fountains



IN MOTORS IT'S HORSE POWER

In Mil Flex Blades it's Work Value

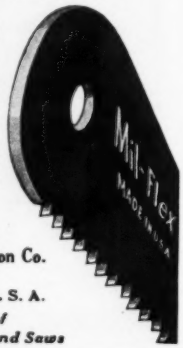
The capacity of a motor is measured by horse power. You expect and *get* 550 foot pounds of work per second per horse power.

MIL FLEX and MILFORD Hack Saw Blades are offered on an equally definite standard of measurement—WORK VALUE—the *number of cuts* per blade and the *time per cut*.

This process makes it possible for you to substitute exact WORK VALUE for guesswork.

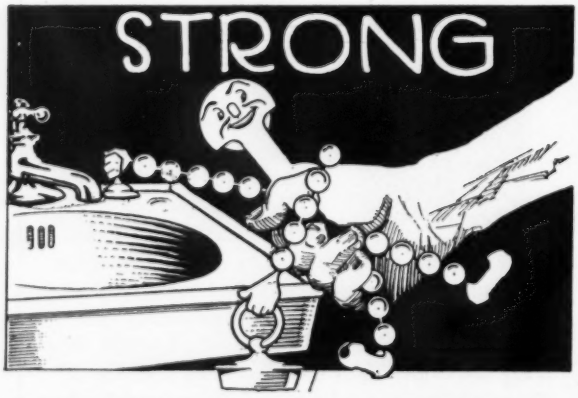
WRITE FOR BOOKLET AND NAME OF NEAREST DEALER

MIL FLEX Hack Saw Blades For Plumbers



WORK VALUE

The Henry G. Thompson & Son Co.
Established 1876
New Haven, Conn. U. S. A.
Also Manufacturers of Metal and Wood Cutting Band Saws



STRONG AND HUSKY—

Just let me hold the stopper on your wash trays, tubs, and lavatories, and then try to pull me loose! I'll stand the pulling and the twisting of the years, and I'm just as neat and sanitary as can be—made of nickel silver. Ask your jobber.

THE BEAD CHAIN MFG. COMPANY BRIDGEPORT, CONNECTICUT

cases and to give authority to executive officials to make changes. Also, many ordinances give to the executive official, who is to enforce it, a certain degree of discretion.

I cannot believe that the courts have ruled in your state that a city is not bound by its own ordinances. That is a very sweeping statement. If true in any given case, it must be that the city had a right to do what it did under the terms of the ordinance, either because of alternative action permitted, a certain degree of discretion allowed, or because of some other factor which is not contained in the very general statement that a city is not bound by its own ordinances.

If important to you, I shall be glad to give a more definite opinion if you will present all the facts in the case from which I may form such an opinion.

Obituary

Edward F. McDonald

Edward F. McDonald, formerly proprietor of the McDonald Plumbing Service, North Side, Pittsburgh, Pa., died at his home in that city recently, following a short illness. He was 49 years of age.

Elmer F. Nelson

Elmer F. Nelson, of Wichita, Kans., died on November 1 after an illness of only a few weeks. His death came as a shock to his friends and fellow workers. Mr. Nelson was born at Topeka, Kans., September 12, 1890. His boyhood was spent in Topeka, and twelve years ago he moved to Wichita, where he entered the plumbing and heating business, continuing in business in Wichita until the time of his death. Mr. Nelson was a highly esteemed member of the Wichita Master Plumbers' Association, and also of various other organizations, the Masonic Order, the Elks, the Knights of Pythias and the American Society of Heating and Ventilating Engineers.

Charles L. Bigelow

Charles L. Bigelow, plumbing and heating contractor of Saginaw, Mich., died recently at his home, 439 Howard street, in that city. Mr. Bigelow was born June 1, 1881, in Bay City. When a young man he went to Manistee, and there learned the plumbing trade. In 1907, he went to Saginaw, becoming associated with Charles Martin in the plumbing business. In 1911 he entered business for himself. His widow and two sisters survive him.

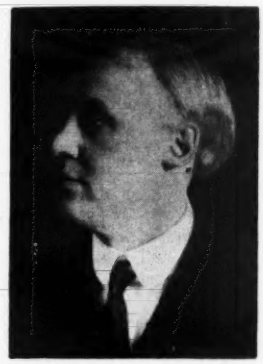
William Nottberg

William Nottberg, of U. S. Engineering Co., Kansas City, Mo., died recently at his home in that city. Mr. Nottberg was born in Cologne, Germany, in 1866. After attending elementary and trade schools, he served an apprenticeship in his father's machine shop, becoming foreman at the age of 19. In 1885, he came to the United States, and in a short time became a refrigerating engineer, and was for many years connected with the Heim Brothers. Later, he associated himself with his two brothers,

John and Henry, buying a one-third interest in the United States Engineering Co. (owned by the Nottberg Brothers), plumbing and heating contractors at 914 Campbell street. Mr. Nottberg was active in the installation of power, heating and air conditioning plants, among these being installations in twenty schools. He was a life-long Turner and a member of the Elks. He is survived by his widow, daughter, grandson, his 93-year-old mother and his two brothers.

Charles Beckingham

Charles Beckingham, a well-known master plumber of Sault Ste. Marie, Mich., died recently at the War Memorial hospital, following a stroke of paralysis. Mr. Beckingham was born at Brockville, Ont., Canada, October 10, 1870, and went to Syracuse, N. Y., when a boy. He worked at the plumbing trade in various towns and went to the Sault in 1908. He entered into partnership in the plumbing business of John McKay, and later became sole owner. He was a member of the Michigan State Association of Plumbing and Heating Dealers, and at one time was the only master plumber in the upper peninsula of Michigan. He is survived by his widow and a sister.



Charles Beckingham

Richard T. Keefe

Richard T. Keefe, for many years associated with the heating industry in Boston, died suddenly at his home, his death apparently being the result of a recent accident, a fall into a pipe trench. Mr. Keefe was identified for many years with the E. T. Keefe Company, heating contractors, for a time as president and treasurer, and more recently he was with the Badger Company.

A delegation of members of the Heating and Piping Contractors Boston Association attended the funeral, which was held from St. Ignatius Chapel on November 8. Mr. Keefe, who was forty years of age, is survived by his widow, four children, two brothers and two sisters.

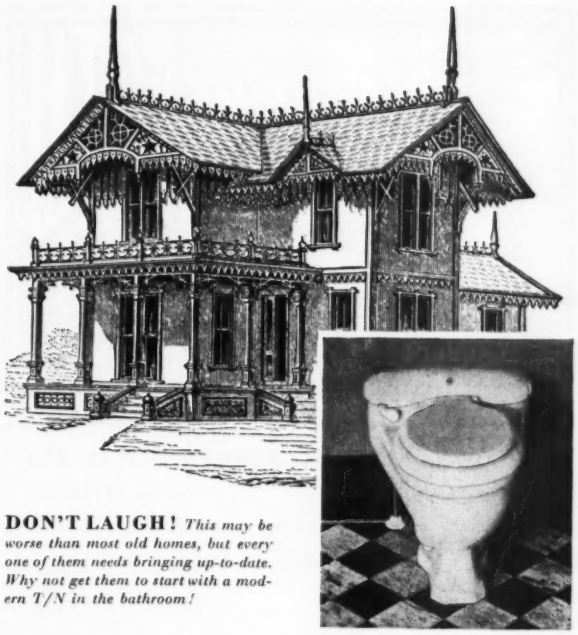
William Wilson

William Wilson, a plumbing contractor of Cedar Rapids, Iowa, died at his home in that city on November 7, following an illness of two weeks. He was in his sixtieth year and had resided in Cedar Rapids all his life. He is survived by four sons and two daughters.

◆

New Plumbing Inspector Named for Kalamazoo, Mich.

John J. Clark, city plumbing inspector of Kalamazoo, Mich., has been named district plumbing inspector for the southern district of Michigan. The appointment was made by Dr. D. D. Slemons, state health commissioner. Under the new plumbing code, district inspectors are authorized to inspect all plumbing installations outside cities and villages having local inspection.



DON'T LAUGH! *This may be worse than most old homes, but every one of them needs bringing up-to-date. Why not get them to start with a modern T/N in the bathroom!*

FOR 1931 . . .

put a quiet T/N *in every remodeled home*

FOR every new home, there are dozens that are being rebuilt, or that should be. Show the owners of these homes how the compact, quiet T/N brings their bathrooms up-to-date. They'll be surprised how little the T/N costs.

Extra profit to you . . . Keep your eye on new building, but push remodeling, there's an extra profit in it for you. For the T/N saves time in installation, needs only 12 inch roughing minimum and two connections. The T/N cannot overflow, comes in colors, and fits almost anywhere because there's no ugly wall tank to prevent.

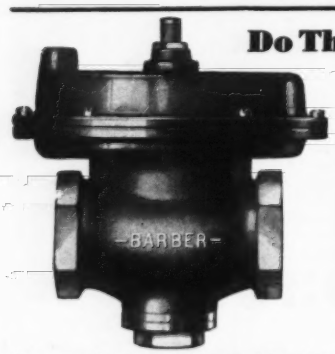
Know your* T/N *jobber? Drop us a card for your jobber's name.

ONE PIECE WATER CLOSET SILENT NON-OVERFLOW Patented. Pat. Pend.

W. A. CASE & SON MANUFACTURING CO.
Established 1853
Dept. 1512, 220 Delaware Ave., Buffalo, N. Y.

T/N

ONE PIECE WATER CLOSET



Do They Like to Pay Gas Bills?

THEY don't mind the gas bills so much if they're small—and they're your friends for life when you show them how they can reduce bills by installing a BARBER Gas Pressure Regulator to control gas pressure to their appliances. These regulators actually cut gas consumption from 10% to 20%. We have a plan to help you sell them.

Write for the BARBER plan.

The Barber Gas Burner Company
3702-4 Superior Ave.
CLEVELAND OHIO

You can easily sell one of these regulators with each gas appliance you install. The BARBER regulator is accurate, dependable—a precision instrument.

STOCKHAM DRAINAGE FITTINGS

THE illustration shows the superiority of Stockham Drainage Fittings—perfected recesses and smooth inner surfaces make clogging impossible.

Be sure the name Stockham is on the fittings you buy. There is a Stockham Fitting for every pipe line need.

Hotstream Automatic Storage Heaters are offered to the Plumbing Trade as the highly perfected result of more than fifteen years experience in the manufacture of water heating appliances. Among their special features are:—

Side Arm Circulating Type
Double Copper Coil Heater with Barber Burner
Double Extra Heavy Tank
Hotstream Throttling Type Thermostat
Rock Wool Insulation
Hotstream Draft Regulator
Hotstream "Passover" Pilot
Hotstream "C" Valve
Beautiful finish.

Write for full information.

THE HOTSTREAM HEATER CO.
"Makers of Heaters that Heat"
CLEVELAND, OHIO

HOTSTREAM
AUTOMATIC STORAGE
HEATERS

On the Job With Dolan & Olson

(Continued from Page 73)

it was just an ordinary change, one of the kind that usually takes about five hours' time. This happened to be the amount of time that I had figured it would take. Gave her this information, she said "Go ahead." Back to the shop, made out the necessary order. Big Jim came in, he got the order, loaded in a tank and the necessary fittings, rolled away and came back in three hours with the job completed.

A clean profit of ten dollars and another customer on our list.

But we had another one well worth the telling.

Hank Becomes a Prospect

Among the various bills, statements, circulars and checks dropped on the desk by the mail carrier the other morning, there was a letter which looked like a prospect. It ran as follows:—

"Would you let me know the price on the automatic water tank heater that you feature in your window display. Please quote prices including installation. Have been past your place several times in the evening but have found it impossible to call during the daytime when you are there."

Hank said that it looked good to him and he would follow it up, so I thought nothing more of it until a couple of days had passed and then Hank blew into the office one afternoon, grinning to beat the band and chuckling all over. Asked him the cause of the mirth and laughter and he replied that he had been over to call on this red hot prospect. Hank had introduced himself. Then he placed an illustrated booklet before the prospect and began his sales talk. The prospective customer asked various and sundry questions. Hank had to do a little sketching and pulled out his so-called fountain pen and it wouldn't work. Then he reached for his pencil and the point was broken. Thereupon Mr. Prospect handed over a pencil and Hank did his stuff.

And Mr. Prospect did his stuff, too.

Sold Hank on the idea that he needed a pen and pencil set and Hank bought.

As to the heater, it developed that this chap was living in a rented house and between the time of writing the letter and the time of Hank's call he had decided to move, but had let Hank talk heater because he wanted to know something about them anyhow.

So he didn't buy a heater, in fact he isn't even a live prospect, but Hank says that he sure is a salesman. He ought to know because it cost him $8 to make this particular call.

◆

Plumbers to Install Water Meters in Clementon

The water commission of Clementon, N. J., ruled, at a recent meeting of the council, that the licensed plumbers of the town are to do the work of installing six hundred water meters delivered there recently. The superintendent of the water department had previously decided that an employe of the department should do the work. The three licensed plumbers of the town had objected, on the grounds that the employe was not a licensed plumber.

Questions

ASKED BY READERS AND ANSWERED BY EXPERTS

About a Water Supply System on a Farm

Editor, DOMESTIC ENGINEERING:—I am going to install an electric water supply system on a farm and furnish running water to the house, barn, hog-house, and chicken house.

I plan on using a 40- or 80-gallon pressure tank. High line current is available.

The water supply comes from two cisterns located 130 ft. apart. They are not over 18 ft. deep.

Should I locate the pump midway between the two cisterns in a pit or would it work all right to place the outfit in a cellar which is already built near the house and about 130 ft. from both cisterns (see Fig. 1)?

Nebraska. J. K. M.

With the pressure tank the pump and starting switch ordinarily will not operate each time a faucet is opened. Having a small storage of water also makes it possible to have the pump or motor out of operation for minor repairs without interrupting the service from the system.

However, having a pressure tank of any size permits the water to stand in the tank some time before it is used, so it may become a little warmer for drinking purposes than if pumped direct from the cistern or well. This, however, can be overcome by adding an extra

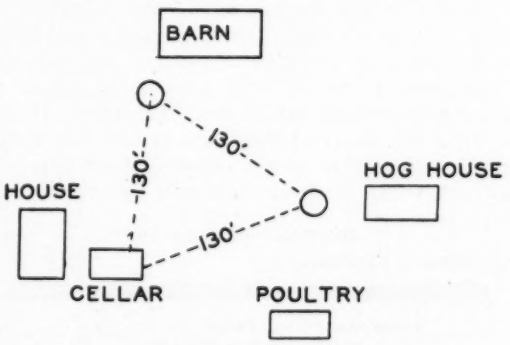


Fig. 1

faucet, preferably at the kitchen sink. The same to be connected between the check valve and pump. With this arrangement the system acts as a direct pumping system when the fresh water faucet is opened. All other faucets are supplied with water from the tank, thus starting the pump only when the pressure is low. The expense involved in adding this feature would be that required for one-half inch pipe from the pump to the kitchen sink and one extra faucet.

The pump may be located any place not subject to freezing and where the pump will be not more than about 18 ft. higher than the lowest water level in the cisterns. I believe the outside cave or pit would be as practical a place as any for this system, unless there is a basement under the house. One and one-fourth inch pipe should be used from the cistern to the pump. All water pipe, of course, should be laid deep enough to be safe from freezing. The two pipe lines from the cisterns to the pump could be so connected that water could be drawn from either of the cisterns as desired. The connection should be made with a three-way valve, although there would be more friction in this type of connection than with gate valves. I would suggest, therefore, that a gate valve be placed on each line a short distance from their junction.

To avoid any difficulty in maintaining a priming in the pump, the suction pipe in each cistern should have a foot valve on the lower end of the pipe.

Water may be piped to the house and any other location desired from the pressure tank in the cave. If a fresh water faucet is desired as mentioned above, two pipes would be used between the cave and the house. The one supplying the house proper should be not less than three-fourths inch and preferably would be one inch. The fresh water faucet would require only one-half inch pipe.

◆

Information About Safe Wastes

Editor, DOMESTIC ENGINEERING:—Please tell me what a "safe" waste is.

Can an overflow pipe from a hot water heating system, or a relief pipe from a range boiler relief valve, be called a safe waste?

What other kinds of safe wastes are there, and what are their uses?

Our city plumbing code has the following requirement:

"Refrigerator waste pipes, except in tenement houses, and all safe waste pipes must have a brass flap valve at their lower ends."

In lodging or tenement houses refrigerator stacks must extend through the roof. I don't see why they should not have the brass flap valve, called for on all other work.

Is there any other reason for using the brass flap valve than to prevent passage of cellar air through the pipe?

Pennsylvania. H. W.

Judging from the first part of this inquiry, we think there is possibly a confusion in the mind of H. W. concerning the meaning of the word "safe."

When a safe waste is referred to, it does not mean

that it is any pipe that performs some operation relating to safety of any kind. For instance, a relief pipe from a condensing tank, or from a range boiler relief valve, has something to do with the safety of the inmates, but such a pipe would never be considered a safe waste.

A "safe" as known in plumbing is a shallow pan, generally made of sheet lead, placed under a plumbing fixture to catch any possible leakage from waste or supply pipes, and thus prevent damage to floors and ceilings. These safes used to be much more used than nowadays.

From the safe a small-sized pipe carries the waste away, discharging it indirectly into the drainage system, under the same regulations that govern refrigerator wastes. It would of course be entirely wrong to connect a safe waste directly into the drainage system.

Safe wastes at one time were much used under water closets and other floor outlet fixtures. They are also used under shower stalls, under storage tanks, and wherever there is possibility of leakage of waste or supply pipes.

In the accompanying illustration, Fig. 1, we show the general idea of a safe and its waste.

In Fig. 2 we show the modern plan of handling the waste from safes under such fixtures as shower stalls. Here the lead pan is caulked into the shower drain, and the water draining from the pan enters the drain through small holes known as seepage openings.

Thus under modern conditions of practice there is no need of running long lines of waste to carry off leakage

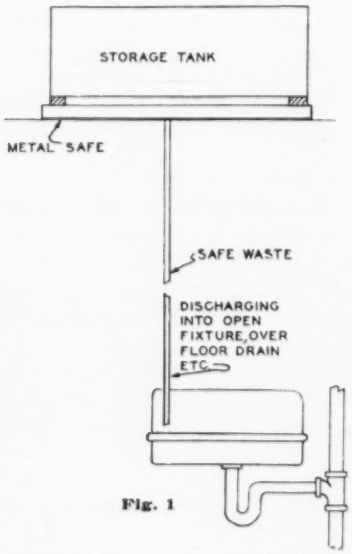


Fig. 1

around fixtures, although the method shown in Fig. 2 would be applicable only to certain types of fixtures, and not to water closets.

As H. W. suggests, the use of the flap valve, as required by his city, at the bottom end of a refrigerator or safe waste is for the purpose of preventing the passage of cellar air through the pipe and into the living rooms of the house. Such a pipe might carry cellar odors.

In the case of a line of refrigerators on different floors in a tenement house, the stack serving them must pass through the roof. Obviously the extension through the roof is to vent the stack or allow air to circulate through it; and as the flap valve would prevent this, its use is prohibited in tenement house work.

In the writer's opinion, the fewer safe wastes there are the better, for it is very seldom that they are called

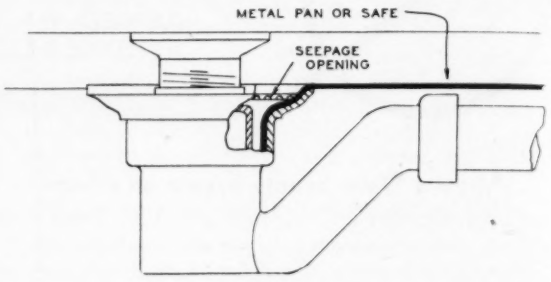


Fig. 2

upon to perform any useful work, and generally the plumbing system could get along without them very easily.

◆

Information About Thermostats and Thermostatic Valves

Editor, DOMESTIC ENGINEERING:—Kindly give me some information about the construction and operation of thermostats and thermostatic valves.

Ohio. G. W. B.

A large number of the devices now on the market for controlling temperature, flow of gas and water, etc., are entirely dependent for their operation, upon the expansion and contraction of what is known as bi-metal. The metal element may be a straight piece, a U-piece, a piece in the form of a coil or in some other shape, but in each instance the operation of the device in which it is used depends originally on the expansion and contraction of this metal.

It is well known that if two pieces of metal having greatly differing rates of expansion are subjected to the same degree of heat, one of the pieces will expand to a greater extent than the other. If these two different pieces of metal are placed side by side and joined together so that they become one piece, under heat one of the metals will expand so much

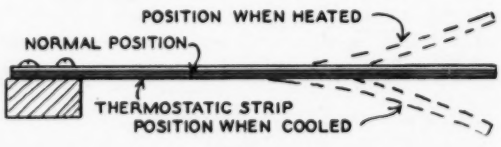


Fig. 1

more than the other that the combined piece of metal will become distorted. This, very briefly, is the construction and action of thermostatic or bi-metal.

It should be noted that in the distortion of this metal, an appreciable amount of energy is developed which can be made use of in various ways for the operation of mechanical and electrical apparatus.

This combination of metals has the quality of permanence, in that it will indefinitely come back to its original state and original position after each con-

traction, and that it will always expand and contract to exactly the same extent under the same definite amount of heat.

To briefly describe thermostatic metal, it is a bimetallic sheet or strip, made by the permanent and perfect joining or welding of two metals together,

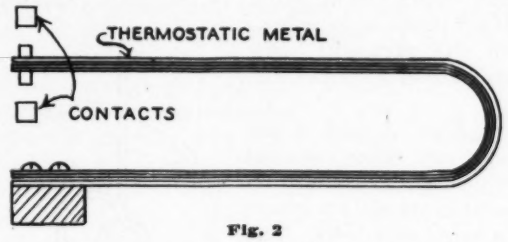


Fig. 2

one of which is practically non-expanding and the other extremely expansive.

The smallest temperature change causes a corresponding distortion. It then becomes only a matter of correct application to apply the distortion to the regulation or control work required. Even the slightest change is instantaneously registered in a distortion of the metal.

Although these metals are obtainable for almost any degree of temperature, it is generally considered that for general commercial purposes the metal need not be made to apply to operations involving a higher temperature than 300 deg. Fahr.

There are hundreds of applications of commercial nature to which this type of metal has been put. In the plumbing and heating trades some of the applications are as follows:

Thermostatic control of circulating water.
Water mixing valves.
Control of shower bath supplies.
Temperature indicator for circulating water.
Radiator temperature regulation.
Water heater gas valves.
Gas oven valves.
Steam radiator traps.

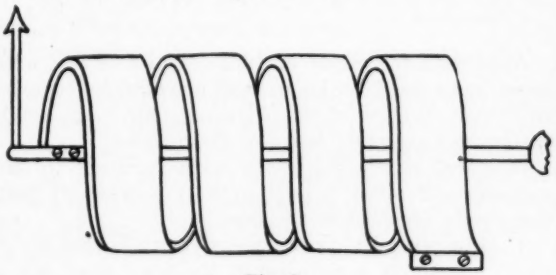


Fig. 3

Water temperature regulation.
Oven thermometers.
Thermostats for heating plants.
Thermostats for refrigerating machines.
Thermostats for heating devices.

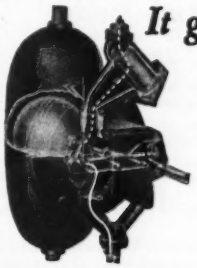
The simplest and most common application of the metal is in the use of straight strips fastened permanently at one end (see Fig. 1), with the other end free to move in either direction when subjected to

Wade
Accessible Drains

START selling your remodeling jobs in the basements of the homes in your community. Install Wade back water and floor drain equipment for healthier, more liveable basements. Get complete information on Wade equipment today. Write direct or ask your jobber.

WADE IRON SANITARY MFG. CO.
1717 Canal St. Chicago, Ill.

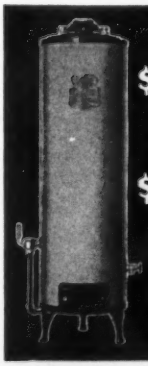
It guarantees every job—



That is the record of the new M & M Self-Cleaning Duplex Feeder on every installation to date. Its certainty of operation gives positive boiler protection against burn-outs or cracked sections—and leaves a clear profit, free from service calls or comebacks. Full details in the new 8-page booklet—write for your copy.

McDONNELL & MILLER
400 N. Michigan Ave., Chicago
Eastern Office: Grand Central Terminal, New York, N. Y.

McDONNELL & MILLER
Self-cleaning Duplex Feeder

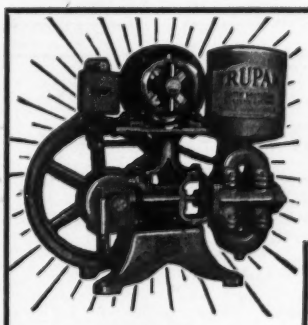


$75 to $295

C. A. LYNDS, General Plumbing & Heating Co., Portland, Oregon, says:

"I have replaced other water heaters with the EverHot many times and find that I make a great number of friends by so doing."

EverHot Heater Co.
Detroit, Michigan
Branches and Sales Offices in 64 Cities in United States and Canada



TRUPAR

TRUPAR MFG. CO. Dayton, O.

Gentlemen:

Please tell me why Trupar pumps are better, yet less expensive.

Name.....

Address.....

JENKINS
TESTED BRASS FITTINGS

Every Jenkins Brass Fitting is put to a rigid test before it is put on the market. When a fitting passes this test it is absolutely perfect in every detail and ready to stand up on the job under the hardest conditions.

TESTED J BRASS FITTINGS

JENKINS MANUFACTURING CO.
Bloomfield, New Jersey

Easy Money is being made in Conversion Type Gas Burners

You have hundreds of opportunities presented to increase your profits merely by having the sales agency for COLUMBIA Gas Burners, Conversion Type.

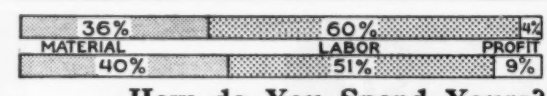
Every time you are called to a home to fix a toilet, repair a faucet, clean out the furnace or do any one of the hundreds of jobs that come your way is your chance.

You have the finest opening in the world to bring up the subject of clean heat—the conveniences and comforts of Automatic Gas Heat. Explain the safety devices, COLUMBIA'S fool-proof Electric Pilot and Lighter, absence of Baffle replacements. Tell them about the positive action, the wholly automatic control by Thermostat.

In a minute you have them interested. And in another five minutes you have made a sale bringing you a larger profit than you frequently make on a complete installation of new heating equipment.

Here is an opportunity for some easy money you can hardly afford to overlook. For more information about this new avenue to profit building, just write The Columbia Burner Company, 1645 Dorr Street, Toledo, Ohio.

But do it now, today.



How do You Spend Yours?

TWO contractors were handed $100 each to install valves on two identical jobs. Any remaining surplus would be theirs.

One decided to save money on materials. So he spent $36 for valves which cost him $60 to install. This left him a profit of $4.

The other decided that good materials would cost less to install so he spent $40 for O-B valves and they cost only $51 to install. This left him a profit of $9. How do you spend yours?

Ohio Brass valves are so designed and machined as to give "an extra profit in the make-up".

Ohio Brass Co.

1189-V Mansfield, Ohio

Here is a Suggestion Worth Real Money

K-3395

Have at least two Speakman Anystream Self-Cleaning Shower Heads.

Put them out on trial in hotels, colleges, schools, Y.M.C.A.'s, Country and Athletic Clubs.

You make four dollars on every head and we know of many places where plumbers have sold from 100 to 500 heads for one installation.

SPEAKMAN COMPANY
Wilmington, Delaware

heat. Movement of the free end can be employed for the performing of work by the use of suitable levers or other mechanical motions, or it can be used for the making and breaking of an electrical circuit.

Perhaps the next most common application is the use of a U-shaped strip. Where there is lack of space, length can be gained in this way. The metal will act in the same way as with the straight strip. This method is seen in Fig. 2.

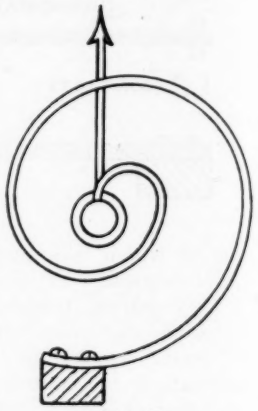


Fig. 4

In Figs. 3 and 4 are shown two other common methods of using the thermostatic metal, by means of a spiral or a helix. The spiral is quite generally used in thermometers, and both spiral and helix in various forms of thermostats.

It should be pointed out that great savings are effected by the use of thermostatic regulating devices due to the fact that as the gas supply is controlled entirely by water temperature, when the switch is on, it works in conjunction with an indirect heater or a coil in the boiler or with a coil in the kitchen range.

Some time ago we saw in process of development a water mixing valve to which this method of control was being applied. In this case the control was gained by means of a spiral strip of metal, wound up something like a clock spring. It was capable of being applied either to a shower supply or to a bath cock.

◆

Use of Grafting Wax for Setting Closet Bowls

Editor, DOMESTIC ENGINEERING:—Kindly give me some information about the use of grafting wax for the setting of water closet bowls.

Connecticut. B. S. M.

Apparently the use of grafting wax for setting water closet bowls has been known and practiced by comparatively few members of the plumbing trade. Apparently, also, many have never heard of the practice.

It is well known that putty is much in use for this purpose, and often it is the cheapest grade of putty that can be obtained that is used.

A great objection to the use of putty is that the oil which it contains is absorbed by the floor, wood, tile or marble, on which the fixture sets, the floor thereby becoming disfigured. Marble is especially susceptible to this absorption. In the case of wood floors, the varnishing or shellacking of the surfaces in contact with the putty will overcome the difficulty.

A second objection to the use of putty is that it will dry out and crack, thereby forming a defective joint. This is particularly true of all the cheap grades of putty.

Both of these objectionable features are entirely overcome in the use of grafting wax. Grafting wax is made

of materials in which there is no oil, and therefore there is no chance of disfiguring the floor. Also, the grafting wax never loses its flexibility, no matter how long the closet may set. As a matter of fact, when the bowl is taken up, the same wax might be used over again.

Grafting wax makes a water-tight and air-tight joint. It is very adhesive, and will stick to the workman's hands, but this can be entirely avoided by the use of a few drops of oil on the hands.

In cold weather grafting wax becomes too hard to work properly, without softening. If stored in a warm place it will generally keep sufficiently soft. A package of the wax laid near a stove or radiator will soften sufficiently after a time, but a more satisfactory way to do is to heat the wax in a saucepan holding several times the amount required for a single fixture. The right consistency will easily be known.

Another method known to be successful is to heat the wax in a double boiler.

Some users of grafting wax claim better results by turning the bowl upside down and pouring the melted wax around the outlet. If the wax is not too liquid, the cold surface of the bowl will partially harden the wax, and it is claimed that in using this method the workman does not have to get his hands into it.

About twelve ounces of the wax is generally sufficient for a single bowl.

While this practice has been in use here and there for a number of years, within the last few years architects have begun to specify it, and its use has become much more general.

We have found plumbers using grafting wax for another purpose also—for making up cleanouts on drainage lines. The wax makes a perfectly tight joint, and yet after standing for years the cleanout can be very easily unscrewed.

◆

To Prevent Septic Tanks from Freezing

Editor, DOMESTIC ENGINEERING: Please tell me how shallow a septic tank can be set from the top of the ground to the top of the tank in the western part of Pennsylvania, with the weather at zero or a few degrees lower at times for a week at a time.

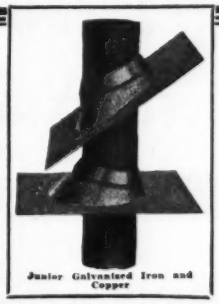
Pennsylvania. D. J. E.

Septic tanks rarely freeze, even though frost penetrates down a distance of 4 or 5 ft., in the western part of Pennsylvania. We would suggest a minimum of 30 or 36 in. to the top of the tank and more, if the slope of the land is such that correspondent can do this without getting his disposal line too deep. In Alberta, Canada, they have considerable trouble from freezing, and put all lines about 6 ft. deep, and they also protect them with straw placed on top of the ground at the beginning of cold weather.

To reduce the quantity of sewage to be purified to the minimum, wherever possible, the rain and surface water should be excluded from the sewers leading to the tank.

Many septic tanks and chemical toilets are in use in exposed places in schools and garages in the northern part of New York state with remarkably few instances of trouble from freezing. When it does occur it is most liable to be in fairly exposed sub-surface disposal areas.

Junior Galvanized and Copper Flashing



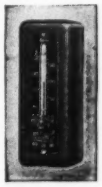
Twenty-four gauge prime galvanized sheets and 14 oz. copper are used for making the Junior Adjustable Roof Flashing.

They are drawn from single sheets having no seam at the base and a heavy pure lead caulking collar is moulded to the upper end of the sleeve.

From your jobber

SIMPLEX MANUFACTURING COMPANY
2644-46 N. Ashland Ave. Chicago, Illinois

only



$48 *installed*
dealer price $22.75

"Sheer Comfort" Heat Regulator is all electric—yet it costs less and gives four exclusive safety features found in no other heat regulator at any price. No batteries, nothing to wind or oil. Easy to install. Ask your jobber or write, H. M. Sheer Co., 211 Hampshire St., Quincy, Ill.

SHEER COMFORT *heat Regulator*

FLOOD CONTROL! *for every basement*

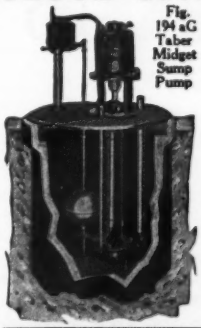


Fig. 194 aG Taber Midget Sump Pump

New LOW PRICES now remove the only possible objection to Taber Sump Pumps.

A Taber Sump Pump installation is Positive Automatic Relief from flooded conditions in basements.

Once installed, Taber Sump Pumps need no servicing . . . thus they will save you money.

Write for description and prices. See Page 923, Domestic Engineering Plumbing and Heating Catalog.

TABER
TABER PUMP CO. *Est. 1859*
290 Elm Street, Buffalo, New York

STAR NACO

The range boiler built to a standard and not to a price. Sold only to licensed plumbers—STAR-NACO Range Boilers cost a trifle more because of the extra years of service built into them. They offer long satisfaction to your customer and a fair profit to you.

Write for details.

D. D. WESSELS & SONS CO.
DETROIT, MICHIGAN

Merry Xmas

The Novelty Steam Boiler Works Co.
Clare and Kloman Sts., Baltimore, Md.
Mfrs. of
ARROW Steel Tanks
TRADE MARK

E-Z RADIATOR HANGERS
for ALL Radiators
For quick, easy installation of all wall hung radiators, use E-Z RADIATOR HANGERS. 3 styles meet all requirements. Fully adjustable both horizontally and vertically. Saves time and labor. Recommended and used by leading architects and contractors. Write for complete information.

HEALY-RUFF CO.
770 Hampden Ave., St. Paul, Minn.
Also Manufacturers of E-Z INSERTS and E-Z LAVATORY HANGERS

EXPANSION HUB SOIL PIPE

At no extra cost to you, or your customers, you can supply this pipe which is endorsed by Sanitary Engineers and recognized by owners as the pipe of unusual quality.

Manufactured to uniform specifications and sold by
ALABAMA PIPE COMPANY STRINGER BROS. CO., Inc.
ANNISTON FOUNDRY CO. THE WETTER PIPE CO.
INTERSTATE FOUNDRY COMPANY

DETROIT FITTINGS
DETROIT BRASS & MALLEABLE WORKS
DETROIT, MICHIGAN

Questions Answered and Discussed by Readers

How the Question Was Answered

The following question was asked in the issue of November 15, and the accompanying answers are by a reader:

There are two tenants on each floor of a 2-story steam-heated building. Each tenant has a gas-heated 30-gallon range boiler in the kitchen. How would you install an indirect water heater at the steam boiler to furnish hot water for all of the tenants during winter, leaving the present gas heaters for summer service?

How Would You Answer This Question?

Foul odors indicate a leakage of sewer gas somewhere in an old sewer-connected house. If the odor is from sewer gas, how would you proceed to prove it to the owner by showing him exactly where the odor comes from? Explain the process.

Answers based upon your experience, and suitable, will be paid for and published in the January 10 issue.

CONNECT the tapped opening of the boiler, below the water line, to the top connection on the steam side of the indirect water heating apparatus and then connect the bottom steam connection into the return of boiler. Then connect the water outlets to the top and bottom of a 120 gal. or larger storage tank. After this is connected take the hot water connection from top of the tank which should be no smaller than one inch and run it to the bottom of the risers and then go up with two ¾-inch risers to the present range boilers. Connect to the present connections on the tops of the range boilers putting a valve on the new line to control it in the summer time. When the steam boiler is being used the cold water connection on the 30 gal. boilers in the rooms should be shut off by a valve so as not to let the water in the range boiler mix with the heated water and cause it to be only lukewarm.

Brooklyn, N. Y. H. P. Dunekack.

◆

Lewis R. Friend on Vacation Trip

Lewis R. Friend, of Milwaukee, president of the Wisconsin Master Plumbers' Association and a director of the National Association of Master Plumbers, is on an extended vacation trip, visiting in the southern part of the country and in Cuba.

◆

John Moore, 1925 Central street, Evanston, has just finished a $95,000 contract awarded him by the City of Evanston. This was the first contract of the kind handled by a north shore plumbing contractor.

Accident Reveals Need for Booster Pump

(Continued from Page 47)

sure is attained. Then the equipment automatically stops.

For places where the city pressure is adequate at times and insufficient at others, the check valve is a small but important item. When the water in the city mains drops below standard, the pump goes to work, the check valve preventing the building's pressure unit from wasting its work by throwing water back into the city mains. Water is taken from the city lines and the pressure increases so that the water supply is sufficient in all parts of the building. When the city pressure is functioning properly, the privately-owned water system is inactive.

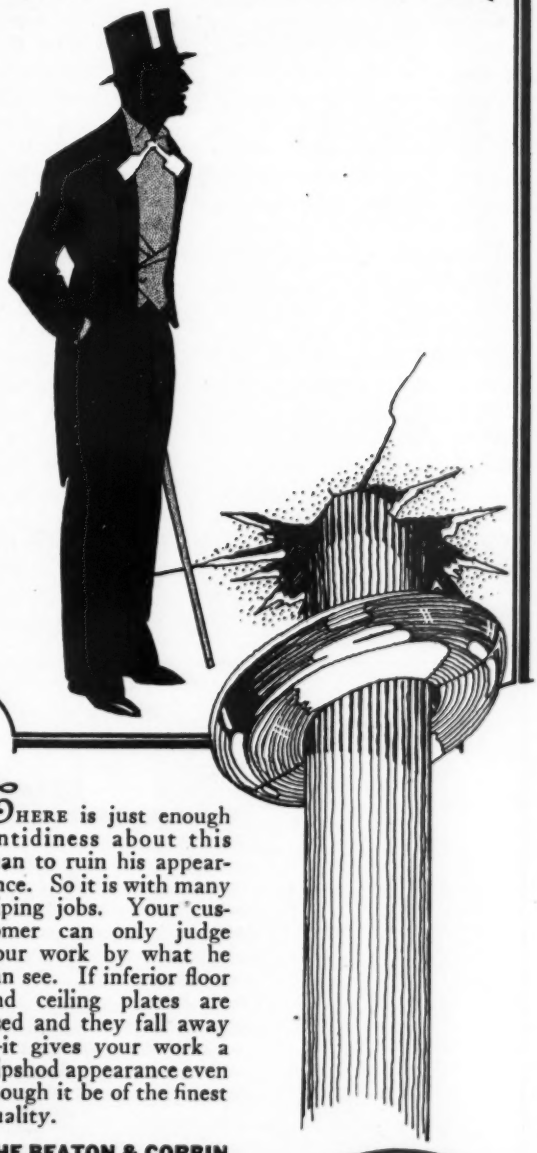
CO_2 Tells If Oil Burner's Air Supply Is Correct

(Continued from Page 55)

efficiency and the horizontal co-ordinate shows per cent CO_2 content in stack gases. The various stack temperatures are indicated for the several curves. By the aid of this curve and a knowledge of the stack temperature and CO_2 content, the efficiency of any job can be estimated. For example, let us take an illustration from actual practice. A certain owner registered a complaint of excessive oil consumption. Analysis of the installation showed that the CO_2 content was only about 4 per cent and the stack temperature was 750 deg. Fahr. Entering the curve at the conditions specified, namely 4 per cent CO_2 and 750 deg. Fahr. stack temperature, we find that the efficiency of the installation was approximately 49 per cent—nothing to boast about to be sure. The excess air was cut down until the CO_2 reading was 8 per cent and the stack temperature was reduced to 500 deg. Fahr., at which condition the efficiency was 79 per cent—much better. In this particular installation the 8 per cent CO_2 reading was the best to be obtained because any further attempt to reduce the excess air resulted in the excessive production of smoke and soot.

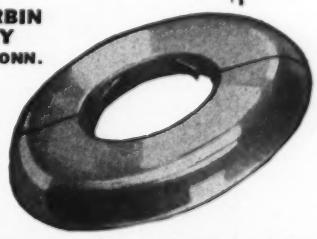
The curves given in Fig. 2 are valuable for many purposes. Suppose, for example, one of your users has a boiler in which you have installed one of your burners and the burner is well adjusted as to excess air and rate of combustion and yet the stack temperature and fuel consumption are a little higher than you really like to see. The economizer or boiler salesman is possibly trying to sell the user some equipment to cut down the stack temperature, and in the attempt may be promising him a great deal in the direction of improved economy. These curves permit a ready means for checking such claims within certain limits. Suppose, for example, the stack temperature is 700 deg. Fahr. and the CO_2 content of the stack gases is 10 per cent, which by the way is a pretty good CO_2 reading, and suppose that the stack temperature can, by means of an

JUST ENOUGH TO SPOIL THE PICTURE



THERE is just enough untidiness about this man to ruin his appearance. So it is with many piping jobs. Your customer can only judge your work by what he can see. If inferior floor and ceiling plates are used and they fall away—it gives your work a slipshod appearance even though it be of the finest quality.

THE BEATON & CORBIN MFG. COMPANY
SOUTHINGTON CONN.



BEATON & CORBIN
FLOOR AND CEILING PLATES

economizer, actually be reduced to 350 deg. Fahr. Offhand this appears to be an enormous saving because the stack temperature is being halved. Let us see from Fig. 2 approximately what saving this would really represent.

Efficiency in Reducing Stack Temperature

Under the actual conditions of 700 deg. Fahr. stack temperature and 10 per cent CO_2, the efficiency is seen to be approximately 75 per cent, and if the economizer can reduce the stack temperature to 350 deg. Fahr., the efficiency will be raised to about 86 per cent, according to Fig. 2; surely not so great an increase as might have been anticipated from cutting the stack temperature in two. Before increasing boiler capacity or installing economizers, check the possible saving by means of Fig. 2. Then determine whether the investment is justified by the saving in oil.

The efficiencies which are shown in Fig. 2 may actually be somewhat lower in practice due to the fact that operation of the average domestic oil burner is intermittent in character. When the burner is inactive, the draft through the furnace carries heat up the stack and this heat is lost as far as any useful purpose is concerned. Also when the burner is inactive for a length of time, the furnace and refractory material become cold and when the burner turns on the mixture is thrown into a chamber, the condition of which is not conducive to good combustion. This results in a certain amount of fuel being wasted in incomplete combustion. Provision of excess air will not obviate this difficulty. Another factor which will alter the efficiencies as represented in Fig. 2 is radiation from the boiler itself although this item is small and unless the cellar is objectionably overheated, such radiation may not correctly be considered a loss. The seasonal efficiency will then be somewhat lower than the efficiency of the boiler and burner as shown in Fig. 2. The amount of discrepancy between the efficiency of boiler and burner as revealed by laboratory test and that which is realized in practice depends to a large extent upon the type of burner.

Reference to excess air and stack temperatures brings to mind a question which is frequently asked in this connection. As we all know there are on the market some burners in which the air is supplied positively by means of a blower or the equivalent, and others in which the air is supplied almost entirely by means of the draft produced by the chimney. The proponents of the latter type sometimes make the claim that the stack loss with the blower-type burner is necessarily higher than with the natural draft type. This is positively not necessarily the case. From the curves in Fig. 2, it is quite clear that the efficiency depends upon stack temperature and CO_2 content, other things being equal. For a given CO_2 content the air-fuel ratio is fixed according to Fig. 1 so that no matter whether the air is forced in by means of a blower or induced by natural draft, the same efficiency can be secured under the two schemes. The writer has tested a large number of burners of both types and the re-

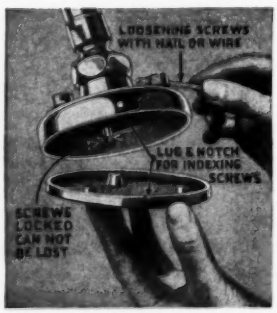
NIEDECKEN SHOWERS
(PATENTED)

Make This Your Policy

Step ahead of competition by handling Niedecken Shower Bath Fixtures. Make it your policy of giving the very best quality and improvements; and your trade will pay you the better price. Niedecken Shower Stalls, Shower Head and Mixer are far in advance of all others, insure perfect satisfaction to your customers and easier business for you. Write now for Niedecken Shower Details.

HOFFMANN & BILLINGS MFG. CO.
206 BECHER STREET
Manufacturers Since 1855
MILWAUKEE, U. S. A.

An example of Niedecken leadership in the illustrated description of the Niedecken Easy Clean Shower Head shown below: the most practical Shower Head made. Write now for complete details.



sults indicate that there is no inherent difference in the efficiencies of the two basic types because of the method of admitting air.

Rate of Combustion and Time of Operation

In all of the discussion of air-fuel ratio and stack temperature with relation to efficiency, the factor of rate of combustion has not been mentioned. Rate of combustion refers to the amount of fuel burned in a unit of time, say for one hour. This factor has an enormous effect on efficiency and will be discussed in a subsequent installment dealing with burner adjustments for maximum efficiency.

Rate of combustion is also intimately associated with the length of time which the burner must operate in order to perform a given heating load. For example, if a burner is adjusted to burn one gallon of oil per hour and this causes the burner to operate 20 hours of the 24 in order to maintain the temperature desired, it should be obvious that if the fuel rate is increased to say 2 gallons per hour, the length of time the burner will operate should be considerably less. Doubling the rate of combustion, however, does not necessarily cut the time of operation in half. This phase of burner operation will also be treated subsequently.

Official Errors in Plumbing Requirements

(Continued from Page 74)

this was a still further waste of good money, but nevertheless, that is the way the authorized pilot drawing requires that this work shall be installed.

The same drawing requires every fixture in a building to be individually vented. This means that a water closet or lavatory on a top floor, and setting within a few inches of the stack cannot depend upon stack venting, but must be provided with separate vents.

As a general thing, the tendency of the best plumbing practice is toward simplification of the plumbing system, when simplification can be obtained without sacrificing efficiency. This tendency has received great impetus from the recommendations made by the Hoover Commission. We presume that one reason why such useless connections as shown in Figs. 2 and 3 make such an impression as they do, is that plumbing practice is now quite generally throwing off many of the useless appendages that have been tacked onto it. It goes without saying that this process of simplification must proceed in ways that are not radical, but it is often possible to improve an installation by simplifying some of its features, and we believe it is always good business to do this.

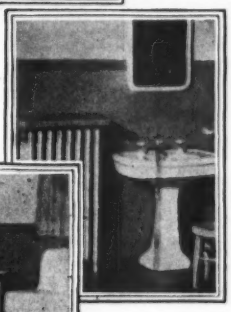
◆

Logansport Master Completes Large Contract

William C. Whitehead & Sons, 610 East Broadway, Logansport, Ind., have completed the installation of plumbing in the new H. W. Gossard building in that city. Included in the equipment installed by the firm were twenty-five water closets, sixteen lavatories, three urinals, three drinking fountains, three combination sinks, and a forty-gallon gas water heater. The sprinkler system, also installed by the Whitehead concern, includes 1,009 sprinkler heads, alarm valve and water motor gong.

We'll Help You Sell Them!

Armstrong Radiator Shields and Enclosures offer you a handsome profit margin. One large enough to justify special effort. Year-round effort! No "closed seasons" on these products. They can be sold every month in the year, and *are*. A substantial sales volume can be built quickly at low cost through the "tried-and-tested" sales plan developed for Armstrong Dealers.



THE THOMAS & ARMSTRONG CO.
Radiator Shield Division
Dept. D 18 London, O.

Here is a sound opportunity. Dealer Sales Franchises are limited. Write at once.

Armstrong Radiator Shields & Enclosures

Finishing another "All-American" season

If you were to build an all-star, All-American house, selecting only the best materials you could buy—if you tested each item thoroughly and made it come up to All-American standards, your house would be equipped with Oatey Roof Flashings.

Oateys are just winding up another real season for their users—just one of many. Why not go in with Oatey for better roof flashings?

From your jobber.

THE L. R. OATEY CO.
5500 Walworth Ave. Cleveland, O.

Woman's Page

Progressive master plumbers in many cities are taking leading parts in the activities of men's clubs. Many have taken advantage of luncheon meetings of Kiwanis, Rotary and Lions Clubs, to give their business publicity before prominent men in other fields of endeavor. Members of the women's auxiliaries who are active in women's clubs have a good opportunity to spread favorable publicity before clubwomen of their town. Through membership in these various organizations, many opportunities are opened up for pointing out the need for modernization of old bathrooms or the installation of new ones, or for suggestions concerning the importance of adequate heating systems.

≈≈≈≈≈≈≈≈≈≈

Kansas City Auxiliary Makes Garments for Needlework Guild

The November meeting of the Women's Auxiliary of Kansas City, Mo., was held at the home of Mrs. Hampel, who was assisted by Mrs. Dunlap and Mrs. Kuehler. There was a very good attendance, and the response to the needs of the Needlework Guild was very gratifying. Garments to the number of 116, consisting of warm underwear, stockings, gloves, dresses, shirts, etc., were contributed by the ladies for the Kansas City school children. Christmas activities will be announced later.

Some of the charter members are ill, and the members regret the absence of Mrs. M. B. Farley, now an honorary member, Mrs. M. P. Connor, Mrs. George Hayes and Mrs. George Foley. These ladies are among the most earnest workers in the organization, and their early recovery and attendance at the meetings is much desired. Mrs. John Karges, past president of the auxiliary, is recovering from an illness, and all were happy to see her at a recent meeting at the home of Mrs. Beanland.

Recent meetings have all been well attended, and much interest is shown. Mrs. John C. Friel is planning a card party at her home.

San Diego Auxiliary Active

The Women's Auxiliary to the Master Plumbers' Association of San Diego, Calif., meets regularly twice a month, at the Merchant Plumbers' Hall, 1041 Eleventh street. Attendance is usually very good. After the business meetings, refreshments consisting of cake, sandwiches and coffee, or punch and cookies, are served. Usually the

Christmas Greetings

With the coming of Christmas and the New Year our thoughts voluntarily turn to the work of the year and we take stock, as it were, of what has been accomplished.

The Women's National Auxiliary has made some progress. We count a few new auxiliaries added to the list of locals, and in Connecticut, the local auxiliaries climbed onto the "National Wagon," thus forming a new State Division. There are still more "worlds to conquer" and we are hoping for good results in the present year.

We acknowledge with thanks the sum of $1,715.00 subscribed to the Women's National Auxiliary Past Presidents' Scholarship during the past year. While we did not live up to our slogan, "Over the top in Boston," we are hoping with the end of our fiscal year to see this scholarship awarded, and our attention turned to other worthy work. What is this new work to be?

It is indeed gratifying that so much attention has been turned to philanthropic work among our auxiliaries. Many auxiliaries have reported work in the "Needlework Guild of America," that they were arranging for Christmas baskets for the poor and numerous other ways of justifying themselves as organizations.

Mrs. W. E. McAndrew

Best Christmas wishes to the members of the Women's Auxiliary to the National Association of Master Plumbers, and to "Domestic Engineering" through whose efforts we enjoy the auxiliary news of the entire country.

(Signed)

MRS. W. E. McANDREW, President, Women's Auxiliary to the N. A. M. P.

president appoints her committee to serve as hostesses, and they in turn appoint their assistants. Flowers and greenery from the ladies' gardens add to the attractiveness of the tables. At a recent meeting, plans of the entertainment committee were discussed, and a committee was appointed whose duties will be to call on members not regularly present at the meetings, and to urge them to attend. Once a month a social affair, usually a card party or theater party is given, and occasionally the husbands are entertained at supper. Mrs. Mable Rohde is president of the San Diego auxiliary; Mrs. Jeannette Kreiss is secretary; Mrs. Esther Rohde, treasurer; and Mrs. Madge Dyer, vice president.

Holiday Greetings

The following letter has been received from Mrs. E. E. Manahan, of St. Louis, Mo., president of the Missouri Division Women's Auxiliary:

The bright star in the East tells us that we are again near the Holy season of Christmas, and I wish to take this opportunity of extending to our National President and all the national officers, all state officers and members of their auxiliaries and, last but not least, the women of Missouri of whom I am very proud, a very Merry Christmas and a Happy New Year, and may 1931 *be a very prosperous year.*

New Bedford Auxiliary Meets

The Women's Auxiliary of New Bedford & Vicinity, Mass., held a monthly meeting at the home of the president, Mrs. Harry Mulberry, 144 Richmond street, New Bedford, on November 3. Sandwiches, cake and coffee were served to the seven in attendance. Mrs. Emil Herzog and Mrs. Harry Mulberry acted as hostesses. The next meeting took place at the master plumbers' rooms on December 1.

Meeting Held by Oklahoma City Women

Mrs. B. B. Russell, Mrs. J. H. Vose and Mrs. S. G. Russell were hostesses for the Oklahoma City Master Plumbers' Auxiliary at its meeting on November 3. After the meeting had been brought to a close, the master plumbers were invited in and the rest of the evening was spent in playing bridge. High scores were made by Mrs. J. M. Anderson and Henry Hanson. Refreshments were served at the close of the evening. Among those present were Messrs. and Mesdames Sam Rice, Roy Patton, K. G. Brandt, E. H. Radek, J. H. Volz, R. C. DeLautre, Mrs. Henry Hanson, J. M. Anderson, Ralph Morris, G. Walker and Wm. Damon.

Rock Island-Moline Auxiliary Celebrates Third Anniversary

The third anniversary of the organization of the Women's Auxiliary of the Rock Island and Moline (Ill.) Master Plumbers' Association was celebrated with a luncheon and theater party. Mrs. Charles Stange of Moline, president of the auxiliary, and Mrs. Melvin McKay of Rock Island were the hostesses at luncheon which was served at one o'clock at the Fort Armstrong Hotel in Rock Island. Table appointments were in yellow, and vases of red roses sent by the Rock Island master plumbers were placed at each end of the table. In the center of the table was a gift from the Illinois Master Plumbers' Association, a deco-

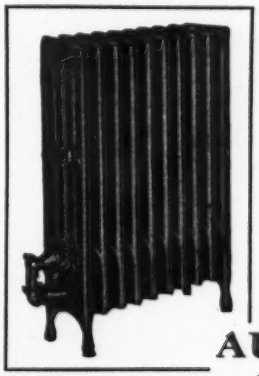
Bell Appreciates Sanitation's Worth

In the Cincinnati Telephone Building, Halsey Taylor Drinking Fountains were chosen because this great company appreciates the worth of sanitation in all their structures, and it is only logical that for the drinking fountains they should specify "Halsey Taylor." « » The Halsey W. Taylor Co., Warren, O.

No. 608
A type used in this building—automatic stream control and two-stream projector.

HALSEY TAYLOR
Drinking Fountains
THE SPECIFICATION FOR SANITATION

Solve an old heating problem
by
MAKING
a new
PROFIT



AUTOMATIC Gas-Steam RADIATORS

Business is good! If you don't believe it ask the man who has investigated the new Automatic Gas Steam Radiator Sales plan.

He'll tell you he is saving his customer trouble and money during the spring and fall heating seasons and yet is making good profit.

He has found out that Automatic Gas Steam Radiators sell because they save. They are part of the regular heating system yet they give spot heat wherever needed without firing the entire system.

You should know ALL about the plan.
Write us at once for particulars.

AUTOMATIC GAS-STEAM RADIATOR CO.
PITTSBURGH, PA.

Air-Tight Steel Tank Co.
PITTSBURGH, PA.

TANKS FOR: High pressure gas and air storage—Pneumatic water systems—Gasoline and oil storage—Oil burning equipment—Open top—Welded. ATSCO Genuine Copper Brazed tanks for high pressure—the tightest, safest, strongest tank it is possible to construct by any known process. A.S.M.E. code tanks.

The SUPERIOR
Shower Head

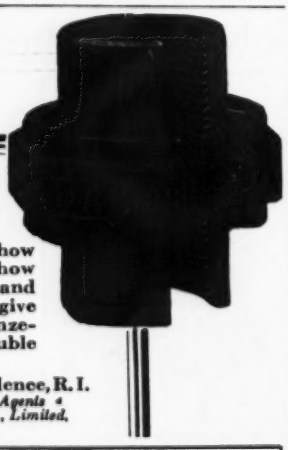
Spray Adjustable
Fine or Coarse

Price
55c and up

Sold by
Leading Jobbers

JUDELL
MILWAUKEE FLUSH VALVE CO.
Milwaukee, Wisconsin, U. S. A.

DART
UNIONS



Order a couple of Dart Unions from your jobber for your next job. Inspect them carefully and then put them to work. Notice how quickly they go on and how easily and then go away and forget them because they give double wear. The two bronze-to-bronze seats give double protection.

E. M. DART MFG. CO., Providence, R. I.
The Fairbanks Company, Sales Agents
Canadian Factory: Dart Union Co., Limited, Toronto, Canada

PACIFIC

Welded steel construction for long life and few repairs . . . large combustion chamber to completely burn the fuel . . . extra direct heating surface, long fire travel to utilize every possible heat unit—these are some of the points which make Pacific Welded Steel Heating Boilers more satisfactory in service and more economical of fuel. In skyscraper or bungalow, they mean lower monthly heating costs. Architects, heating contractors, building and home owners will profit by writing for full information.

PACIFIC STEEL BOILER CORPORATION
General Offices: Detroit, Mich. *Factories:* Waukegan, Ill., Bristol, Pa.
Sales Offices in 58 Cities
Division of the United States Radiator Corp., Detroit, Michigan

rated birthday cake with three candles, in honor of the auxiliary's third birthday. After luncheon, the ladies enjoyed a theater party.

New Orleans Auxiliary Gives Party

The Women's Auxiliary to the New Orleans Association of Master Plumbers enjoyed a Hallowe'en party at the home of Mr. and Mrs. Ed. Hagardorn in Magazine street.

In order that all might enter into the spirit of the evening, the ladies wore the proverbial sheet and pillow case, and the men certainly got their spirits mixed. Mr. Louis Faivre was not able to recognize the "spirit" of his own sister, but identified more of the spirits present than any other gentleman and in consequence was declared the prize winner. Mrs. W. P. Powell knew the correct (almost) location of the cat's tail, and Mr. James O'Neil, placed the hindmost part of the body of the animal in question on a skeleton some distance removed. Delicious refreshments were served, which added to the high spirits of everyone present.

South Shore Auxiliary Entertains Master Plumbers

The South Shore Women's Auxiliary to the Master Plumbers held its meeting at the Hotel Racine, Racine, Wis. It was a social affair at which time the auxiliary entertained the master plumbers. Dinner was served at 7 o'clock, and dancing and bunco which were enjoyed by all followed. The room was beautifully decorated with old fashioned garden flowers in yellow and white with oak leaves. The center-piece for the table was a large pumpkin lighted. Mrs. L. C. Pugh, chairman of the committee in charge, was given much credit for the lovely party as also were her assistants, Mrs. H. J. Smith and Mrs. J. A. Murphy. Mrs. H. J. Smith, president of the auxiliary, gave a brief address of welcome which was responded to by Al. Brunk, president of the South Shore Association of Master Plumbers. Those present at the party were: Mr. and Mrs. H. J. Smith, Mr. and Mrs. A. Steinhoff, Mr. and Mrs. L. C. Pugh, Mr. and Mrs. J. A. Murphy, Mr. and Mrs. J. Feiner, Mr. and Mrs. F. DeLonge, Mr. and Mrs. A. Sanderhoff, Mr. and Mrs. L. Norup, Mr. and Mrs. Al. Brunk, Mr. and Mrs. O. Beetcher, Mr. and Mrs. J. Dale, Mr. and Mrs. A. S. Ernst, Mr. William Pugh and Mr. George Martin. Out of town guests were: Mr. and Mrs. A. Johnson, West Allis, Mr. and Mrs. A. C. Fuge, West Bend, Mr. and Mrs. J. H. Neary, and Mr. and Mrs. W. P. Wallace, all of South Milwaukee.

The monthly meeting of this auxiliary was held on November 15 at the Hotel Blatz, Milwaukee. There was a large attendance and plans were made for the next meeting to be a Christmas party held on December 13. Cards followed and honors were awarded to Mrs. H. J. Smith and Mrs. V. J. Robb. Later the women were entertained by the South Shore Association of Master Plumbers at a dinner. The next meeting will be held at The Breakers Lodge, Erie St. Road, Racine, Wis.

Dayton Auxiliary Celebrates Anniversary

Twenty-three members of the Dayton, Ohio, Women's Auxiliary held their anniversary meeting on November 20. This year was the thirteenth for the auxiliary. The meeting was held in the master plumbers' room in the Industrial Building. During the business session a Christmas meeting was discussed and a motion was made to fill baskets for the needy at Christmas time. Five members were appointed on this committee. Card playing followed the meeting, Mrs. Metcalf and Mrs. Frank Clemens winning honors.

In view of the fact that this was an anniversary party,

the table was bedecked with candles and flowers as well as Thanksgiving decorations. Ice cream, cakes, coffee and candies were served. Mrs. Louis Blank, Mrs. John Haas and Mrs. Brink acted as hostesses.

St. Louis Auxiliary Plans Christmas Party

An enjoyable meeting was held by the Women's Auxiliary to the Contracting Plumbers of St. Louis, Mo., on November 13, at the Hotel Statler. After the business session, at which Mrs. Bartosch presided, nominations for the coming year were made. Members then played bunco and refreshments were served. All members present thanked the committee for the pleasant time they had had. Mrs. B. Braun and Mrs. J. D. Els were co-chairmen of the committee. A Christmas party is being planned, and each member is to bring her children. Members who have no children are to borrow some for the day. Mrs. L. Miller is chairman of the Christmas committee.

Jackson Auxiliary Gives Housewarming

The Women's Auxiliary of Jackson, Mich., held a housewarming party on Thursday, November 20, at the new home of Mrs. Mildred Reed, recording secretary, at Sunset Park. There was a good attendance of members, who greatly enjoyed the affair—both the luncheon and the evening spent in sewing garments for the Needlework Guild. The ladies are planning to donate something to the Welfare fund also.

District of Columbia Auxiliary Gives Costume Party

At eight o'clock on November 4 at the Shady Oak Inn, the members of the Women's Auxiliary of the District of Columbia entertained the men at a costume Halloween party. The Inn was colorful with beautiful Halloween decorations. Refreshments were served. There was dancing and Halloween games were played. There were 50 attendants in unique costumes. The first prize for the most beautiful costume was awarded to Miss Greta Feddon, as a colonial lady. The first prize for unique and funny attire went to Fred W. Quinter, who seemed to convince everyone that he was a splendid colored mammy. The apple-biting contest was awarded to George R. Eberly.

South Side Auxiliary Entertains State President

The second meeting of the year for the South Side Women's Auxiliary of Chicago was held on November 5 at the Fairfax Hotel, with Mesdames J. Cepican, J. Delehant, L. W. Hudon, and F. N. Shaw acting as hostesses. There were thirty ladies present. The members of the auxiliary were much pleased to have as their guest Mrs. Diedesch, president of the state auxiliary. In speaking to the ladies, Mrs. Diedesch remarked that she was most impressed by the display of enthusiasm which helped to

Top row: Mrs. William Beahm, Mrs. H. L. Stilwell and Mrs. George M. Hicks, all of Philadelphia; Mrs. T. H. Munford; Mrs. F. A. Beier, St. Paul, Minn. Bottom row: Mrs. Henry Kroepke, Mrs. W. Kroepke, Mrs. A. Platt, all of New York City; Dorothy Schmaus, Milwaukee; Iris Mistofsky, Chicago. Photos taken at Boston convention of the N. A. M. P.

STEAMING HOT WATER
with Low Fuel Cost and Little Attention

The National Multi-Flow Coil Tank Heater with Aquamatic Regulator outfit leads the way to the most satisfactory hot water service for all domestic uses. Day or night this efficient heater stores up steaming hot water at low cost with attention only once in 2 or 3 days. Double interwound copper coil and bronze fittings prevent rusty water. Exhibit the Multi-Flow to your customers. Full details in Bulletin 52A. Write for it.

(cut away view)
Domestic size No. 12 with red vitreous enamel jacket.

THE NATIONAL PIPE BENDING CO.
Est. 1883

Storage Heaters
Instantaneous Heaters
Feed Water Heaters
Coils, Bends

174-M River Street
New Haven, Conn.

BOSTON NEW YORK PHILADELPHIA

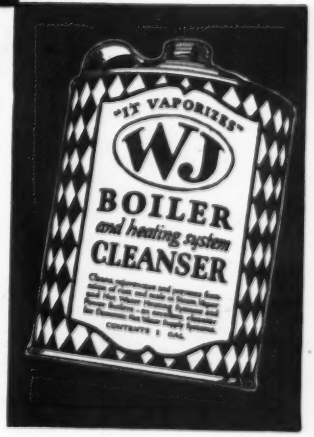
BOILER SOLDER SEAL

If you have lost money on previous boiler leak repair jobs, you will even more appreciate BOILER SOLDER SEAL. It is a METALLIC POWDER that finds the leak and repairs it with a patch that stays "put" regardless of boiler expansion or contraction. Boiler Solder Seal should be with you on every job.

WJ CLEANSER

Here is a sure way to get the dirt, rust, scale, sand or any other efficiency impeding matter, from the entire heating system. W J works quickly and surely, cleaning not only the boiler, but pipes and radiators, too.

Write us for a copy of "Profit Possibilities."



RADIATOR SPECIALTY CO.
Charlotte N. C.

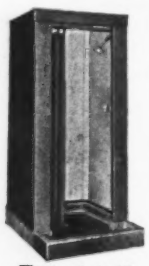
LUCKE *Leak Proof*
TUB HANGER

After you have studied the easy installation features, the positive water seal action and the complete protection against settling that Lucke Tub Hanger provides you will want it for all of your work. Your customers will want it, too.

Write for the details today.

WILLIAM B. LUCKE
Manufacturer
WILMETTE, ILLINOIS

The Plumber's JOB - the Plumber's PROFIT



The A miral with extended receptor and curtain

Fiat Shower Bath Compartments and Shower Doors

Whether building or remodeling . . . FIAT Shower Bath Compartments and Shower Doors mean double profits for you. Profit on the sale and Profit on the installation.

FIAT Shower Compartments are made in many sizes and designs . . . are of knock-down construction and can be installed on rough or finished floors. Permanent . . . absolutely leak-proof. Easy to install.

Write for full particulars.

FIAT METAL MFG. COMPANY
1211 Roscoe St. Dept. 612 Chicago, Ill.

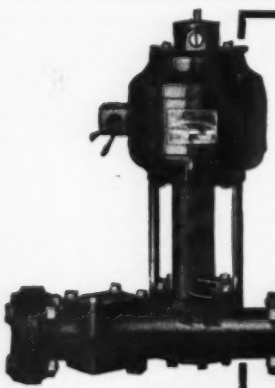
MOORE

There's no job to selling or installing Moore Radiator Hangers. When a home owner sees their convenience he buys at once. Why not get a supply of Moores on hand. Have them ready for all remodeling and new installations.

Order them from your jobber today.

LOOK FOR OUR CATALOG IN SWEET'S CATALOG

Carty & Moore Eng. Co. Inc.
611 W. Larned St. Detroit, Mich.



It "Fills the Bill" *and* **Cuts the Bills!**

The Janette HydrolatoR not only "fills the bill" when it comes to helping solve hot water heating problems, but it also cuts the bills. Pays for itself in fuel savings.

Forces water through the system several times faster than ordinary thermal circulation, thereby increasing heat.

Write for bulletin 830-H.

JANETTE MFG. CO.
558-60 Monroe St.
Chicago, Ill.

New York, N. Y., Singer Bldg., 149 Broadway
Philadelphia, Pa. Real Estate Trust Bldg.
Seattle, Wash., Harrison Sales Co., 314 Ninth Ave. N.

make a successful auxiliary. She spoke of the pleasure she had derived in passing on the $1,900 check to the national scholarship fund at the national convention in June. In closing Mrs. Diedesch expressed the desire to see a large attendance at the State Convention to be held in Danville, January 20, 21, and 22. Mrs. Shaw, secretary of the auxiliary, read a letter of gratitude received from David E. Gibson, priest in charge of the Cathedral Shelter, for the donation of $25 from the auxiliary, which had come at an opportune time.

Everyone was glad to see Mrs. Compton again, and she assured everyone she was just as glad to be back. Mrs. Kratz was chosen to fill Mrs. Compton's office as chairman of the Sick Committee. The ladies voted on a party for the members and their friends to be held at the Medinah Club some time after Christmas. Cards were enjoyed by all after the business session, with Mrs. Kaleher winning at five hundred and Mesdames Hager, McCune and Bolton at bridge.

Akron Auxiliary Meets

The Women's Auxiliary to the Akron, Ohio, Master Plumbers' Association held its monthly meeting at the home of Mrs. Fred Stiffins on November 18. There were seventeen in attendance but no business was transacted, with the exception of the collection of dues.

A three-course luncheon was served amid fall flower table decorations. Bridge followed with Mrs. John Miller winning first honors, and Mrs. George Rauckhorst, second honors. During the games lemonade, candy and nuts were served. The next meeting will be at the home of Mrs. R. H. Viall and Mrs. F. Stadtmiller will assist.

Wilmington Auxiliary to Help Needy Families

The Women's Auxiliary to the Master Plumbers' Association of Wilmington, Del., held its monthly meeting on Monday, November 17, at the home of Mrs. Albert Hayman. Twelve members were present. It was decided to send out several baskets to needy families. Christmas cards were distributed among members to sell for the auxiliary. After the meeting, ice cream, cake, candy and salted nuts were served. The next meeting will be held at the home of Mrs. Clinton Brown on December 15.

Ogden Auxiliary Holds November Meeting

The regular meeting of the Women's Auxiliary of Ogden, Utah, was held on November 7, with a good attendance. The president, Mrs. Harry Eggleston, was delayed, so Mrs. Alma I. Wharton, vice president, presided at the meeting. She gave a talk on "Sanitation" and also entertained the ladies with a humorous reading. Members were reminded to bring their contributions for the family which they were planning to make happy at Thanksgiving. Mrs. Charlotte Langford, corresponding secretary, and Mrs. Eggleston were winners of honors at cards. A delicious luncheon was served by the hostess, Mrs. J. H. Blaes.

Denver Auxiliary Elects Officers

Mrs. Fred Bock entertained the Denver, Colo., Women's Auxiliary on November 12 at a luncheon at the Denver Tea Room. A dainty and delicious luncheon was served at one o'clock, after which a business meeting was held. Officers were elected for the coming year. Mrs. V. A. Kiser was unanimously chosen for president; Mrs. Clarence Cooper for vice-president; Mrs. Guy Stocking, secretary; Mrs. J. P. Brickey, treasurer; Mrs. R. A. Hurley, corresponding secretary; and Mrs. Frank Hanlin, sergeant-at-arms. After business had been transacted, whist was played, and the meeting then adjourned until December, on account of the Thanksgiving holiday.

New Trade Literature

Folder of Texo Heater & Mfg. Corp.

Texo Heater & Mfg. Corp., Covington, Ky., is sending out a folder describing its heat cabinets for automatic heating in winter, combined with ventilation and cooling in summer. These cabinets use gas for heating, and electricity for ventilation and cooling. The folder describes how the motor driven fan extracts lost heat from flue gases, and the electric automatic control shuts down fuel costs when the proper room temperature is registered. Illustrations of the cabinets are shown.

Circular of Hotstream Heater Co.

The Hotstream Heater Co., Cleveland, Ohio, is sending out a pamphlet describing its indirect hot water heater which is connected to a steam heating boiler, so that the fire in the heating boiler serves to heat the house and to supply hot water for domestic use. A cross section view of the heater and numerous diagrams showing typical installations of these heaters are given.

Booklet of Rochester Circulator Co.

Rochester Circulator Co., Rochester, N. Y., has issued a booklet describing its electric circulator for hot water heating systems. The construction of the circulator is described, and numerous diagrams and plan views are given. Instructions are included for installing the circulator in various types of buildings, and special uses such as for ice water circulation in hotels and brine circulation to display counters are outlined.

Catalog of Johnston Brothers, Inc.

Johnston Brothers, Inc., Ferrysburg, Mich., has issued its catalog H-400, of direct draft types, stoker and oil fired types and smokeless types of steel heating boilers.

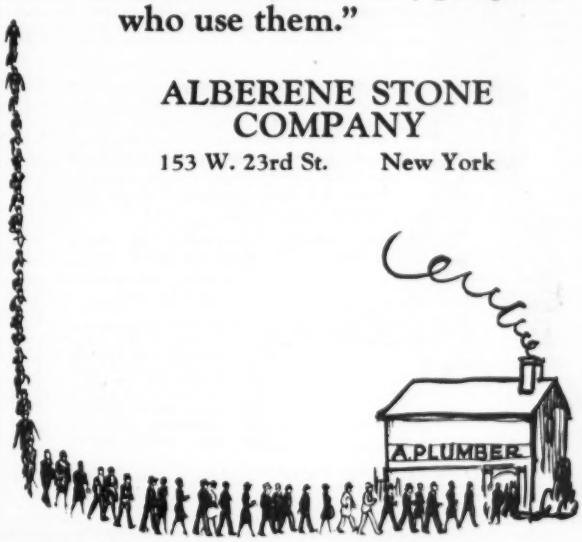
Top row: Mr. and Mrs. C. D. Romaine, Mrs. L. Romaine, and William N. Mobie, plumbing inspector, all of Newbury, N. Y. Middle row: Mr. and Mrs. R. E. Jarvis of St. Louis, Mo.; Mr. and Mrs. B. P. Tuite of Oneida, N. Y. Bottom row: Mr. and Mrs. J. C. Souter of Andover, Mass.; Mrs. and Mr. Eugene Larrivee of Lawrence, Mass. Photos taken at Boston convention of the N. A. M. P.

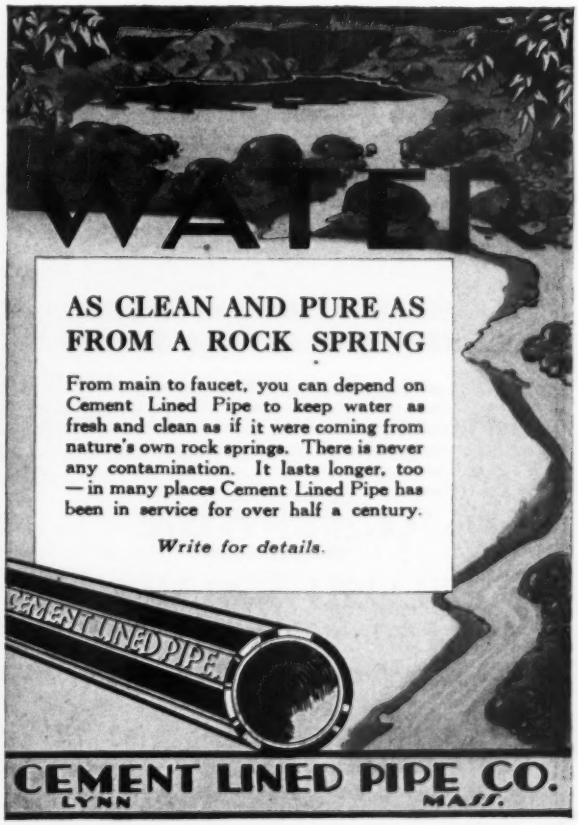
Plumbers tell us why they prefer to install ALBERENE STONE LAUNDRY TUBS

"The only comebacks I ever get on Alberene Laundry Tubs are orders from *new* customers, sent in by people who use them."

ALBERENE STONE COMPANY

153 W. 23rd St. New York

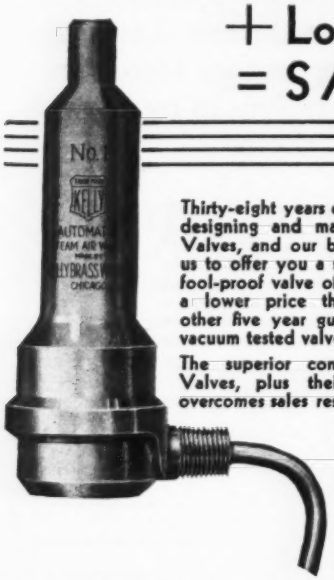



WATER
AS CLEAN AND PURE AS FROM A ROCK SPRING
From main to faucet, you can depend on Cement Lined Pipe to keep water as fresh and clean as if it were coming from nature's own rock springs. There is never any contamination. It lasts longer, too — in many places Cement Lined Pipe has been in service for over half a century.
Write for details.
CEMENT LINED PIPE
CEMENT LINED PIPE CO.
LYNN MASS.

KELLY QUALITY

+ Low Price

= SALES



Thirty-eight years of experience in the designing and manufacturing of Air Valves, and our basic patents, permit us to offer you a sturdily constructed, fool-proof valve of superior quality at a lower price than asked for any other five year guaranteed steam and vacuum tested valve.

The superior construction of Kelly Valves, plus their attractive price, overcomes sales resistance and cinches sales for you.

Write today for our new descriptive Price List No. 30 illustrating our complete line of seven valves that fill every air valve requirement for a gravity one-pipe atmospheric or vacuum type heating system.

KELLY BRASS WORKS 226 W. ONTARIO ST. CHICAGO

Glen Echo Country Club

ST. LOUIS COUNTY, MO.

Architect, Preston J. Bradshaw

Plumbing Contractors, Gloeckner-Melville Co.

Plumbing Jobbers, N. O. Nelson Mfg. Co.

Watrous

FLUSH VALVES

Used Throughout

Write for details to

PLUMBING DIVISION

THE IMPERIAL BRASS MFG. CO.

1231 West Harrison St. :: CHICAGO

Branch Offices in All Principal Cities

Left to right: Howard McCray of Albion, Frank Gage of Fairbury, Nebr.; R. E. Krimlofski and D. Uldin, both of Omaha. Photos taken at the convention of the Nebraska Retail Plumbers' Association

A sectional view of the smokeless type shows the fire travel and combustion chamber. Specifications and dimensions sheets are given, and the catalog also includes diagrams of several types of boilers, and illustrations of buildings in which the boilers have been installed.

Circular of Buffalo Specialty Co.

Buffalo Specialty Co., Buffalo, N. Y., is sending out a circular describing its compound for stopping boiler leaks. A table showing the amount of the liquid to be used in steam and hot water boilers of different sizes is given in the circular. Letters from users are also included.

Folder of Fiat Metal Mfg. Co.

Fiat Metal Mfg. Co., of Chicago, has issued a folder with the title, "The World's Most Modern and Sanitary Bath." The company's shower bath compartments which can be installed in new or old buildings, are described. The compartment is of "knocked-down" construction, designed so that tile or plaster can be applied adjoining the brass chromium plated door frame without cracks occurring. The floor is of polished precast terrazzo. Illustrations of various styles of compartments, with and without doors, are given. Instructions for setting up the compartments are also included.

Catalog of Thomas Devlin Mfg. Co.

Thomas Devlin Mfg. Co., Philadelphia, has issued a catalog of its malleable iron railing fittings. Elbows, tees, crosses, flanges, hinges, latches, ells, etc., are among the various articles listed. There are numerous illustrations, and directions for ordering are given.

Circular of Heller Bros. Co.

Heller Bros. Co., Newark, N. J., has issued a circular with the caption, "Seventy per cent of this work you do every day is wasted." The circular lists several tools of the company's manufacture, such as files, rasps, cold chisels, pipe wrenches, etc.

Catalog of Standard Heating and Radiator Co.

Standard Heating and Radiator Co., of Pittsburgh, Pa., has issued its Catalog K, describing its burners for natural gas, for use with all sizes and shapes of heating boilers, also for vertical tubular, high or low pressure steam boilers. Illustrations of rectangular shapes, and of upright round burners, are given.

"Permanently Drying Wet Cellars"

"Permanently Drying Wet Cellars," is the title of a leaflet just issued by The C. M. Kemp Mfg. Co., Baltimore, Md., describing a new cellar drainer of its make. A technical description of the drainer is given, as well as a table of capacities of gallons of sump water per hour.

Circular of Buffalo Forge Co.

Buffalo Forge Co., Buffalo, N. Y., is sending out a circular describing its unit heaters. Illustrations show a new model of the company's manufacture. Heating elements, motors and die formed housings are illustrated, and tables of sizes are given.

Business Changes and Ventures

Business Changes

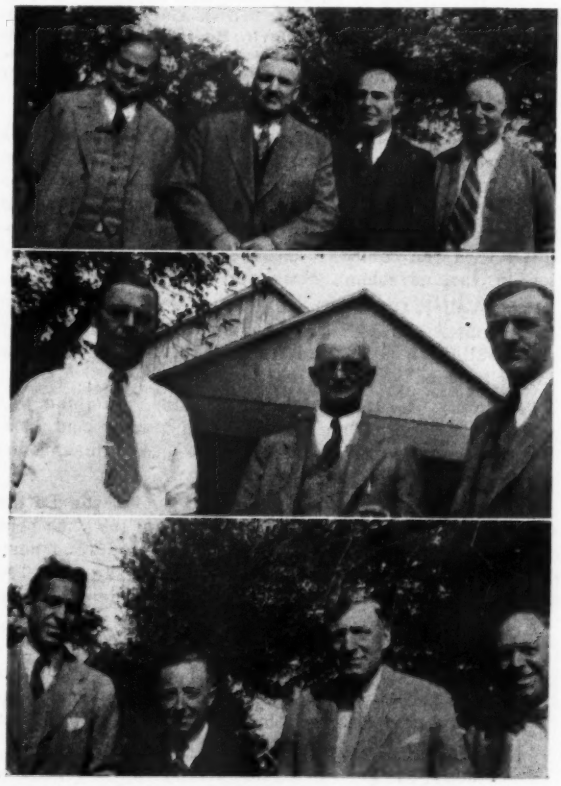
Middletown, Conn.—Bacon Bros., Holland building, a partnership originated thirty-one years ago by Louis P. and Henry Bacon to engage in the plumbing business, has dissolved partnership and will be taken over by Louis and Charles Bacon.

Riverhead, N. Y.—Lucas & Sanford, plumbing and heating contractors have moved from their former location at Roanoke Heights, and are now located in the building formerly occupied by the Capitol restaurant, on Peconic avenue.

Vinton, Iowa—The plumbing and heating business owned by the H. E. Hartman Estate has been sold to Frank Stahr.

Dunkirk, N. Y.—F. N. Fellinger, operating a plumbing and heating engineering and contracting business in this city for many years, has removed to new quarters at 129 Central avenue.

Jamestown, N. Y.—George L. Schutt, operating a plumbing engineering and contracting business, has removed from the corner of Fourth and Main streets, to more commodious and modern quarters on North Main street.



Top row: J. J. McCormack, Pierce, Butler & Pierce Mfg. Corp.; William Morgan, Grabler Mfg. Co.; J. T. Connelly, Kennedy Valve Mfg. Co., Elmira, N. Y.; John D. Miller, W. G. Shafer Co., Inc. Middle row: Willard Spicer, George L. Bauer, chairman; Frank Sheppard, entertainment committee. Bottom row: J. F. Hunting, The Hunting Co.; E. T. Rowe, Crane Co.; Edward F. Joy, Jr.; W. M. Ballard, general contractor. Photos taken at the outing of the Syracuse association

New Ventures

Pawhuska, Okla.—Frank A. Drees, with his sons, Harold Drees, registered electrician, and Merlin Drees as advertising manager, have opened a plumbing, heating and electrical shop which will be run under the firm name of Drees & Sons. The shop is located at 800 East Twelfth Street.

Manchester, Conn.—Alfred Grezel, plumbing and heating contractor, has formed a partnership with Rudolph Johnson, formerly head of the Johnson Electric Shop. The new company will function as the Grezel-Johnson Company with store and shop on Purnell Place. In addition to conducting a plumbing and heating contracting business the company will deal in oil burners, electric refrigerators, washing machines, etc. The store on Purnell place is to be enlarged and a 25-foot show window added.

Los Angeles, Calif.—Nels C. Anderson, 1760 Princeton street, Phoenix, Ariz., and James H. Rodefer, 1664 N. St. Andrews place, Los Angeles, Calif., have engaged in business at 1675 N. St. Andrews place, under name of Monarch Plumbing Co.

Los Angeles, Calif.—Frank A. Goyette, Charles E. Goyette and Hugh Long have engaged in the general plumbing and heating business at 1818 North Vermont avenue, under the name of Goyette Brothers.

New York City—Robert Kravath and associates, have organized and incorporated the Robert Kravath Plumbing and Heating Company, Inc., with a capital of $10,000, to establish and operate a plumbing and heating engineering and contracting business in the Bronx. The new concern is represented by the law firm of Rosedale and Cohen, 2 Lafayette street.

New York City—With a capital of $1,000, M. L. Raymond and associates, have organized and incorporated the Raymond Plumbing Company. It is planned to establish and operate a plumbing engineering and contracting business in the Bronx. Daniel Harrison, 170 Broadway, represents the new firm.

Los Angeles, Calif.—The Lincoln Plumbing Co. has engaged in business at 1114 North Sycamore avenue, under the management of Chester A. Demby.

Los Angeles, Calif.—The A. A. A. Plumbers have opened up at 6722 S. San Pedro street, under the management of W. E. Lang and F. A. Lang.

Brooklyn, N. Y.—The Berg Plumbing Corporation has been organized and incorporated, with a capital of $5,000, to establish and operate a plumbing engineering and contracting business. The new concern is represented by Solomon and Glaberman, 16 Court street.

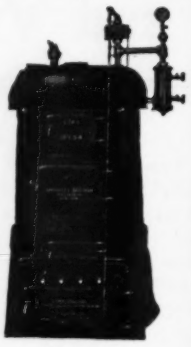
Jamaica, N. Y.—Daniel Catapano and associates, have organized the firm of D. Catapano, Inc., with a capital of $10,000, to establish and operate a plumbing engineering and contracting business. A. Morris, local attorney, represents the new firm.

Cleveland, Ohio—W. S. Adam Plumbing and Heating, Inc., has been incorporated by Mabel Adam, William S. Adam and W. S. Adam.

Olean, N. Y.—John M. Hickey, 133 South Barry street, and Robert G. Finlay, 112 North Eighth street, have purchased the interests of the late Robert E. Hickey and William J. Hickey in the firm of Hickey Brothers, plumbing and heating contractors, at 256 North Union

YORK

ROUND STEAM HEATER



A *Steam Heater* of Exceptional Value, Built for Endurance.

CONSERVATIVE RATING

Send for Circular

ABENDROTH BROTHERS

"Nearly a century in business"

Factory and main office:
PORT CHESTER :: NEW YORK

28 Y-S-4

FROM YOUR JOBBER

OVERTON

Let Overton Roof Flashings lead the way into big remodeling jobs for you. Sell Overtons first and then sell the rest of the job.

Order Overtons from your jobber today.

BUTLER MFG. CO.

MINNEAPOLIS :: MINNESOTA

Now! only $75

Cash, F.O.B. Factory. For 210-gallon-per-hour size. Complete with motor for 60-cycle or direct current

Profit by this outstanding value in Home Water Systems

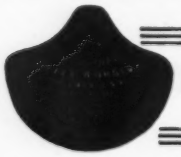
AT $75, this New Type complete 210-gallon-per-hour Fairbanks-Morse Home Water System is unmistakably the greatest value ever offered.

It is automatic with all working parts enclosed in a handsome lacquered casing. This tremendous value, made possible by Fairbanks-Morse quantity production and world-wide distribution, will mean extra profits for the dealers that handle them.

Write now for complete information before someone else in your territory gets the franchise. Address Dept. I-12.

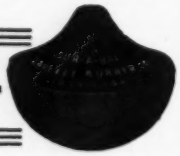
FAIRBANKS, MORSE & CO., 900 S. Wabash Ave., Chicago

FAIRBANKS-MORSE Home Water Systems



DUR-A-BAL

REG. U. S. PAT. OFF.

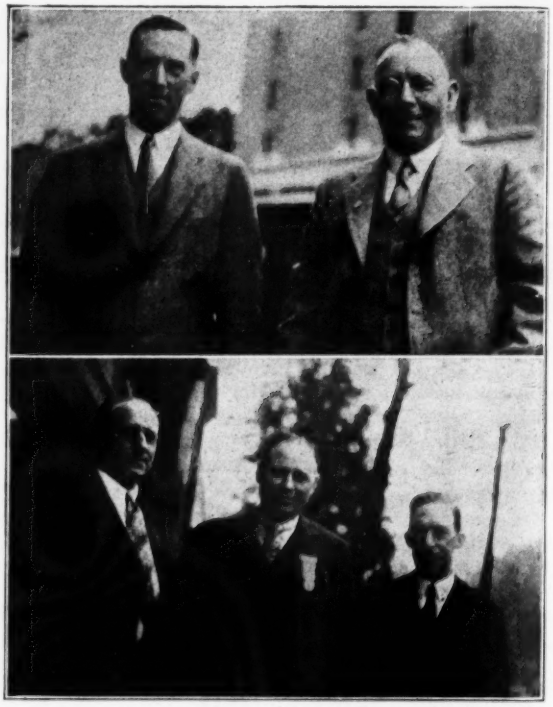


One glance at the **DUR-A-BAL** is usually enough for the experienced eye to be sure of sturdy, non-distorting construction. Why not have the three-year guarantee **DUR-A-BAL** for the same money as the one that will give trouble?

LAVELLE RUBBER COMPANY

LOCATE OUR CATALOG IN

320 W. Illinois Street
Chicago, Ill.



Top picture: Arthur S. Forster, Hamilton R. Pasco, both of National Electric Products Corp., British-American Tube Division. Bottom picture: A. M. Kievit, Montclair; William Farinella, Englewood; W. C. Day, Stove Manufacturers' Corp., Newark, N. J. Photos taken at the convention of the New Jersey State Association of Master Plumbers

street. The firm has been established in Olean for the last twenty-six years. Mr. Hickey has been identified with the concern for twenty-five years, officiating as office manager while the business was operated by his brothers. For the last eighteen years he has been associated with the company as superintendent of construction in various school, state and civic projects.

Pauls Valley, Okla.—The O. K. Plumbing & Sheet Metal Co. has opened an office and shop on East McClure avenue in the building next to Hewitt's furniture store. Clarence Martin is manager of the new establishment.

Portland, Ore.—Shea, Speidel & Riley, plumbing and heating contractors, have moved from their recent location at Second and Ankeny streets to 174 Union avenue North, corner of Oregon street.

Passaic, N. J.—With a capital of $10,000, the Batkin and Brint Plumbing and Heating Company, Inc., has been chartered, to establish and operate a plumbing and heating contracting and engineering business. The local law firm of Razen and Danowitz represents the new concern.

New York City.—The Peoples Heating Contracting Company has been organized and incorporated, with a capital of $20,000, to establish and operate a heating contracting and engineering business in the Bronx. The new concern is represented by the law firm of Ornstein and Silverman, 405 Lexington Avenue.

Rochester, N. Y.—J. A. Meade, formerly connected with the Automatic Utilities Corporation, has established a heating engineering and contracting business at 111 Commerce Building.

Chicago, Ill.—The U. S. Plumbing Corp., 3217 Ogden avenue, has been incorporated with a capital of $20,000 to conduct a plumbing and heating business. J. E. Glickerman, T. Lanern and T. Weiss are the incorporators.

Pipe —— Lines
Connected by LYT

FOOLISH FACTS

We are looking for great things in our "Foolish Facts" contest. Suggested by one of the liveliest of the radio programs, it ought to bring out the poetic talent in full force.

The idea is to write four lines of poetry about some fact or other that doesn't matter anyway. For instance:

The good old-fashioned girl has gone
The way of many things—
The carpet bag, and bustle, and
The buggy without springs.

And if the fact is even more foolish than that, it will come closer to winning foolish mention. Get out the stub of the estimating pencil and let's have yours.

Here's another one:

The funny thing about the firm
Of Johnson, Smith & Co.,
Is this: both Johnson and his pard
Departed years ago.

And still another:

The swivel chair that swivels not
Is not a swivel chair;
For if the chair has ceased to swiv
Its swivel is not there.

That last one comes close to getting foolishest mention.

And another:

The man who made electric lights,
Forgot one thing you know,
For if you want to spoon, you can-
Not turn the darn things low.

A farmer had a field of malt,
He was a patriot true;
He sat and watched the field all night
So trouble wouldn't brew.

Now, we've shown you what can be done. The next mail ought to bring a batch—yours among them.

TWO FROM CHICAGO

"Get down, Fido," yelled Gus the gas man, as he swallowed the hot dog with a gulp.

What do they call the last three hairs on a dog's tail?
Ans. (if you must have it)—Dog's hair.

P. G. N., Chicago.

WITH FEELING, TOO

A little girl went into a large business establishment, and had her first ride in an elevator.

"How did you like it?" asked her father that evening.

"Why, it was so funny," answered the child, "we went into a little house and the downstairs came up."

"Mathilda, our new cook, says she put her heart into this cake."

"She must have been very heavy-hearted."

LEIGHTON'S GLOOM CHASER.

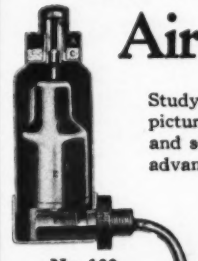
THE EDITOR BEGS PARDON

From an Ohio paper: "We regret the unfortunate mixup of two items in yesterday's edition which made us say that 'the bridegroom took his place beneath the floral bell and 2,000 volts were immediately shot through his quivering form'."

What the editor probably wanted to indicate was that the word "immediately" should have been left out.

L Y T

KEENEY
Air Valves



Study carefully the cut-away pictures of these Keeney Valves and see at a glance their many advantages.

No. 100

A. Vent opening enclosed by cap insures clean valve.
B. Non-corrosive pin has bullet-shaped point to prevent sticking.
C. Asbestos muffler helps make Valve more silent.
D. Lock Nut always holds Valve in upright position.
E. Thermostatic Float.
F. Threaded hexagonal shank makes solid rest for Float.
G. Syphon Pipe placed low drains all the water.

No. 102

No. 102

This is an ideal valve for competitive work such as apartment houses, hotels and public buildings.

Furnished packed in attractive counter and window display cartons.

THE KEENEY MFG. CO.
Newington : : Conn.

No. 79—1 Quart
No. 80—1 Pint
Gasoline - Kerosene
Covered by Patents

When Efficiency Counts!

Are you prepared to meet the rush of winter business? You will find that "ALWAYS RELIABLE" torches and furnaces are helpful in completing a good job. These torches and furnaces are supreme in every test and are economical and efficient in operation.

Order through your jobber who will give you prompt service and satisfactory prices.

Also specify for "ALWAYS RELIABLE" plumbers' tools.

OTTO BERNZ CO. INC., Newark, New Jersey

Stocks In

SAN FRANCISCO, CAL. 41 Spear Street
CHICAGO, ILL. 4139 W. Kinzie St.
NEW YORK CITY 26 West Broadway

(1) EASY TO INSTALL
(2) FREE FROM SERVICING
(3) LOW PRICE
(4) CONVENIENT PAYMENT PLAN

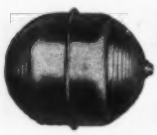
(5) PERFECTED AUTOMATIC CONTROL

Send for the Catalog

Write the Small Electric Plant Section, Westinghouse Electric & Mfg. Co., East Pittsburgh, for complete information about Westinghouse Water Systems.

Westinghouse

ELECTRIC WATER SYSTEMS (*Automatic*) 12-13-30



4"x5" Oval Float

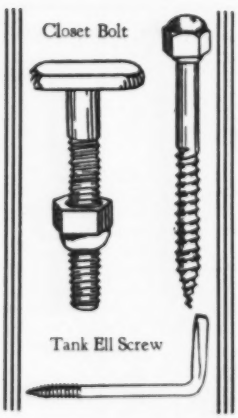
NO-SOL COPPER FLOATS

No-Sol Floats incorporate all features necessary to the satisfactory performance of a tank float.

Each float is individually tested and guaranteed.

5" Round Float

The AYLING & REICHERT CO.
3047 N. Erie St. Toledo, Ohio



HINDLEY SPECIALTIES *are always ready*

Packed so that you can tell at a glance exactly where the thing you want is. No lost time searching through unmarked bags and boxes. Order Hindley Specialties to save time!

HINDLEY MFG. CO.
Valley Falls :: R. I.

1903-1930

Over a Quarter Century of Service

□ □ □

A-1 QUALITY ACCURATE GAUGE PROPER TAPER
CORRECT NUMBER OF THREADS
PROMPT SHIPMENT OF ORDERS ECONOMICAL PRICES

All backed by twenty-seven years of manufacturing experience are assurances of your satisfaction with

"RAVENA" IRON PIPE FITTINGS

□ □ □

RAVENA IRON CO., Ravena, N. Y.

Bath a Day Movement

We have received a letter from the Kentucky State Association of Master Plumbers regarding the distribution of copies of "The Story of the Bath" in that state. Some time back the association ordered a supply of copies of the booklet, imprinted "Compliments of the Kentucky State Association of Masters Plumbers" to be held on hand and distributed as inquiries reaching our office were forwarded to the state office of the association. Five such cities have been furnished copies, raising our total to 177.

177

Alert association officials, interested in securing favorable publicity for their associations, would find it well worth while to follow the example of the Kentucky group.

Every day we receive requests from school teachers for copies of "The Story of the Bath." A complimentary copy is immediately sent to each teacher, and the inquiry is referred to the local association where there is one, or to the state association where there is no local.

Thus, in Kentucky, every teacher making inquiry is taken care of promptly and generously. If that were true of every inquiry received in these offices—they come from all over the United States—there would be constant publicity being gained for the plumbing fraternity in the schools, from which it invariably spreads to the home.

If you have never read "The Story of the Bath," write for a free copy and for complete instructions as to its use in the schools.

Little Sentences That Sell

Write one of these BLACK BOARD EPIGRAMS on your window or bulletin board each day. Many master plumbers and heating contractors find them real business getters.

An idle baker does not make a loaf of bread.

• • •

It is a wise old saw that cuts with its wisdom teeth.

• • •

Many a college owes its fame to its football team.

• • •

There is always room for more oysters in the soup.

• • •

Nearly all busy people are happy.

• • •

People aren't necessarily good because they feel that way.

• • •

Family trees are known by the fruits thereof.

• • •

The more bread the baker makes the more he kneads.

• • •

Don't give up just because you happen to be down.

• • •

There is nothing more uncertain than a sure thing.

• • •

Be sure of your ground before you start to build upon it.

• • •

A cat never cries over spilled milk.

◆

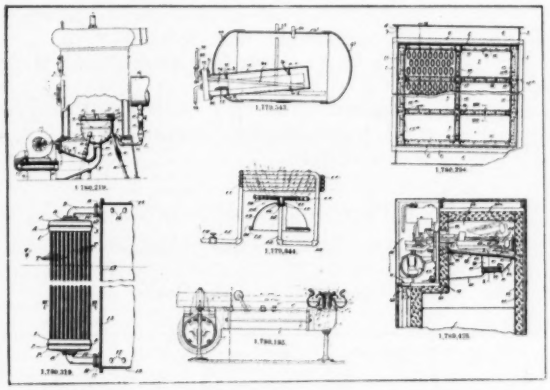
New York City.—With a capital of $10,000, the Safeway Plumbing and Heating Corporation has been chartered, to establish and operate a plumbing and heating engineering and contracting business. N. Lesser, 16 Court street, Brooklyn, represents the new firm.

PATENTS

Heating Department

1,779,543. Refrigerating Apparatus. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware.

1,779,844. Oil Burner. Israel J. Grunin, Arlington, Mass.



1,780,185. Oil Burner. Albert E. Grant, New York, N. Y., assignor to Grant Heat Machine Corporation, New York, N. Y., a Corporation of Delaware.

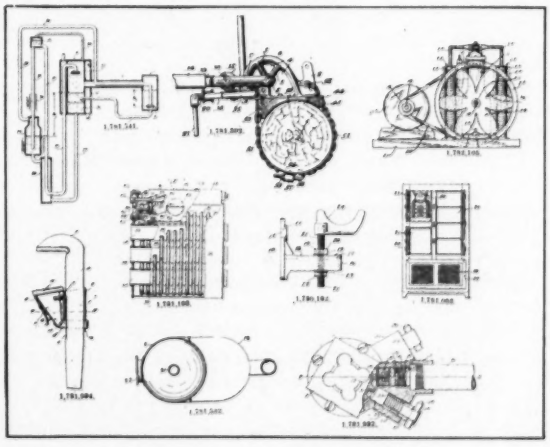
1,780,219. Oil Burner. James Joseph Barrett, White Plains, N. Y., assignor to Barrett Blue Blaze Burner Co., Inc., a Corporation of New York.

1,780,294. Heat-Exchanging Apparatus. Archibald H. Davis, Jr., Pittsburgh, Pa., assignor to Shaw-Perkins Manufacturing Company, Pittsburgh, Pa., a Corporation of Pennsylvania.

1,780,319. Deformed Tube Radiator. Charles Sonneborn, West Pittsburgh, Pa., assignor to Shaw-Perkins Manufacturing Company, Pittsburgh, Pa., a Corporation of Pennsylvania.

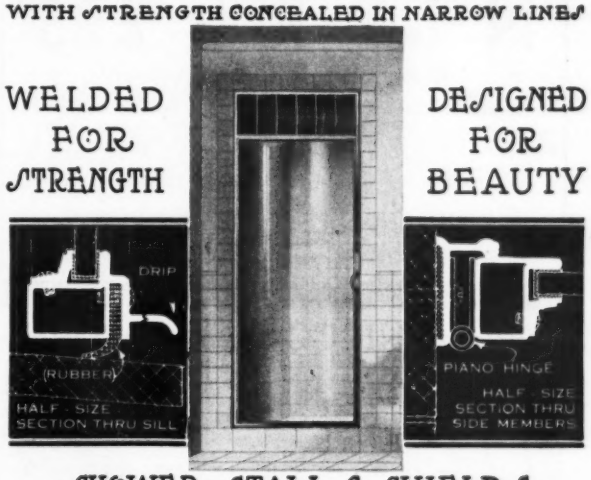
1,780,425. Refrigerating Apparatus. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments to Frigidaire Corporation, a Corporation of Delaware.

1,780,162. Universal Radiator Bracket. Saul C. Appel, Medford, Mass.



1,781,003. Refrigerating Apparatus. John Ralph Fehr, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware.

ZOURI · STURDIWELD
A NEW SHOWER STALL DOOR
WITH STRENGTH CONCEALED IN NARROW LINES



SHOWER STALLS, SHIELDS, AND BATH ENCLOSURES
IN CHROMIUM, DUPLEX NICKEL PLATE, NICKEL-SILVER AND SATIN BRONZE

The Zouri Company
GENERAL OFFICES, CHICAGO HEIGHTS, ILLINOIS
INTERNATIONAL — ASSOCIATED COMPANIES: MODERN BRONZE STORE FRONT COMPANY; STANDARD STORE FRONT CONSTRUCTION CO.; INTERNATIONAL STORE FRONT COMPANY — DISTRIBUTION

PLOMB
HAND FORGED TOOLS

Extract Broken Fittings
Without Jamming or Spreading

PLOMB HAND-FORGED Extractors are new and different. No spiral, but sharp fins instead. Simply drive into a broken-off fitting or pipe you can't get a wrench on. The fins bite deep, and the harder it is to turn the deeper they bite. But it won't jam in or spread the soft metal. Broken part turns right out on its own threads. Sizes for ⅛ in. to 1 in. pipe, and ¼ in. to 1½ in. screws. They're hand-forged and stay sharp.

LOOK FOR OUR CATALOG IN SWEET'S CATALOG

Ask Your Jobber's Salesman.

PLOMB TOOL COMPANY
2209 Santa Fe Ave., Los Angeles

New York: 47 W. 63rd St. · Chicago: 1146 W. Lake St.

CHALLENGE BRAND

Rust Proof

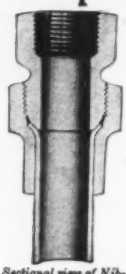
NIPPLES

Wrought Iron, Steel, Brass, Copper

Every CHALLENGE BRAND STEEL PIPE NIPPLE is coated with a rust resisting drying oil that resists oxidization • • Every CHALLENGE BRAND PIPE NIPPLE is carefully threaded and cut to ACCURATE length • • EVERY CHALLENGE NIPPLE IS A BETTER NIPPLE. *Ask your jobber for them by name.*

FRICK-REID SUPPLY CORPORATION
Nipple Division
Sandusky and Robinson Sts. N. S. Pittsburgh, Pa.

Complete NIBCO Plumbing Service



Sectional view of Nibco coupling showing how copper tube connection is made. Nibco Fittings are available in couplings, tees, elbows, reducers and everything necessary for a complete job of plumbing.

Copper Tube and Nibco Fittings are recognized as the last word in modern, rust-proof plumbing. Thousands of installations in all parts of the country are giving perfect satisfaction. Aggressive plumbers have made thousands of dollars with this system. In response to numerous requests, we have inaugurated a complete service on Nibco Plumbing whereby both tubing and fittings can be ordered and shipped from one source of supply. If you are not already familiar with the Nibco System and its money-making possibilities, send for full information today. Just ask for Bulletin A-200.

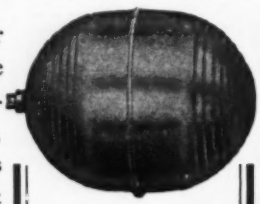
Copper tubing and Nibco Fittings are available in all sizes from ⅛" to 2". The smaller sizes of tubing are shipped in coils, as shown above, and the large sizes are shipped in straight lengths. Send for list of present low prices.

NORTHERN INDIANA BRASS CO.
Elkhart, Indiana

NIBCO

No matter what the water conditions, Toledo Floats will not rust or corrode.

They will not crack, break or pull apart. Install them where inferior floats have failed and let them show you just how good a good float can be.



Toledo Solderless Floats

THE REICHERT FLOAT & MFG. CO.
2238 Smead Ave.
Toledo, Ohio

Sensible Rates

Garage Attached

The Breakers

— ON THE OCEAN FRONT —

Atlantic City — N. J.

Modern in construction, luxurious in appointments and convenient to all piers and amusements.

1,781,994. Wrench. Ford M. Wilson, Liberal, Kans., assignor of one-half to Henry E. Snyder, Liberal, Kans.

1,782,105. Refrigeration. Charles C. Spreen, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan.

1,781,193. Refrigerating Apparatus. John R. Replogle, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan.

1,781,532. Boiler and Water Heater. Louis D. Summers, Decatur, Ill., assignor, by mesne assignments, to Leader Iron Works, Inc., Decatur, Ill.

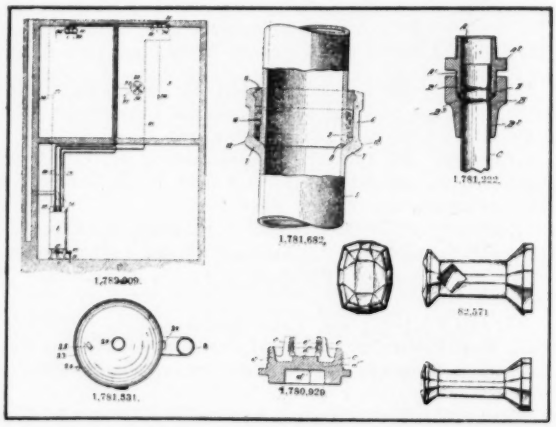
1,781,541. Refrigeration. Albert Einstein, Berlin, and Leo Szilard, Berlin-Wilmersdorf, Germany, assignors to Electrolux Servel Corporation, New York, N. Y.

1,781,592. Pipe Vise and Bender. Albert Henry Meier, Evansville, Ind.

1,781,932. Diestock. Thorvald Petersen, Erie, Pa., assignor to Reed Manufacturing Company, Erie, Pa., a Corporation of Pennsylvania.

Plumbing Department

82,571. Bracket for Bathrooms. Charles H. Lovett, Trenton, N. J., assignor to The Cook Pottery Company, Trenton, N. J., a Corporation of New Jersey.



1,780,929. Faucet-Supporting Plug. Isaac T. Kahn, Cleveland, Ohio, assignor to The Consolidated Iron-Steel Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio.

1,781,531. Boiler and Water Heater. Louis D. Summers, Decatur, Ill., assignor, by mesne assignments, to Leader Iron Works, Inc., Decatur, Ill., a Corporation of Delaware.

1,781,682. Soil Pipe. Joseph J. Crotty, New York, N. Y., assignor to The Universal Pipe and Radiator Company, New York, N. Y., a Corporation of Maryland.

1,782,209. Water Heater. Victor Mauck, Merion, Pa.

1,781,222. Pipe Joint or Connection. Arthur I. Fischer, Cleveland Heights, Ohio, assignor to The Republic Brass Company, Cleveland, Ohio.

◆

Spokane, Wash.—The Washington Plumbing and Heating Co., has been incorporated with a capital of $10,000, by Frank J. Armstrong, J. T. Dickey and R. E. Alexander.

Long Island City, N. Y.—The Sanford Plumbing, Heating and Contracting Company has been organized and incorporated, with a capital of $10,000, to establish and operate a plumbing and heating engineering and contracting business. The new firm is represented by Morris Grossgold, 489 Fifth avenue, New York City.

Palestine, Tex.—J. L. Jones and Claud E. Eastment have opened a plumbing, heating and sheet metal shop to be known as the Pal-Tex.

CLASSIFIED ADVERTISING

8 cents for each word including heading and address. Count seven words for keyed address. Minimum $2.00 for each insertion.

One inch $4.00. Cash must accompany order. Copy should reach us eight days in advance of publication date.

Situations Open

WANTED: BY PLUMBING AND HEATING concern located in large North Texas city, a competent estimator, who has had practical experience and can layout and run any size job. Prefer young man who could qualify as heating engineer. All correspondence considered confidential. Salary $250.00 per month. Address Key 560, "Domestic Engineering," 1900 Prairie Avenue, Chicago.

SALESMAN — MANUFACTURER OF boilers and radiation with well located branches offers attractive commission proposition to salesman. Address Key 573, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

REPRESENTATIVES WANTED IN leading cities to handle highest grade line of radiator shields and radiator cabinets. Our representatives earn $500.00 to $1,000.00 per month the year around, above expenses. Full selling plan furnished. Address Key 256, "Domestic Engineering," 1900 Prairie Ave., Chicago.

WONDERFUL MONEY-MAKING EXclusive or Side-line proposition for salesmen calling on plumbing dealers. Write us today. KOIL-LES HEATER COMPANY, Geneva, Illinois.

REPRESENTATIVES WANTED BY long established nipple manufacturers for Pittsburgh, Minneapolis, Kansas City, and Louisville territories to sell to regular jobbers and wholesalers only. Address Key 570, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

Situations Wanted

PLUMBING AND HEATING SUPERINtendent and engineer, first class, thoroughly familiar with all classes of large and small work, desires to make a change soon. Address Key 569, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

Lines to Handle

MANUFACTURERS' REPRESENTAtives wanted to sell old established line of floor drains to the wholesale plumbing trade on a commission basis in the following territories: Washington and Oregon states, California, Minnesota and Wisconsin, New York state (New York City excluded), Western Pennsylvania, Ohio, Illinois (Chicago excluded), Indiana and all the southern states. Address Key 571, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

MANUFACTURERS REPRESENTAtives calling on wholesalers, plumbing and heating supplies middle West and Western territory to sell Vaughn Relief Valve. Address A. J. Vaughn, Terminal Commerce Building, Philadelphia.

SALES AGENTS WANTED FOR QUICKselling side line item for jobbers or plumbers. Pocket sample. Address Key 572, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

Lines Wanted

The Advertiser a Well Known and successful sales representative—for 15 years prominent in the East, representing a well known brass manufacturer, is desirous to take on several lines on commission basis. Warehouse facilities and office arranged for. Excellent record and highest trade references. Substantial manufacturers, catering to the supply houses only, earnestly requested to get in touch with advertiser. Address Key 563, "Domestic Engineering," 1900 Prairie Avenue, Chicago.

MANUFACTURERS' REPRESENTAtive well acquainted with leading wholesalers in Philadelphia and Baltimore territory desires one or two additional lines of merit on a commission basis. Warehouse facilities. Will consider only recognized lines. Address Key 566, "Domestic Engineering," 1900 Prairie Avenue, Chicago.

LONG ESTABLISHED, RELIABLE Manufacturer of plumbing product selling to regular plumbing and heating supply houses in mid-central and western states desires two or three additional lines to warehouse and sell as distributor for other manufacturers. Address Key 574, "Domestic Engineering," 1900 Prairie Avenue, Chicago.

ESTABLISHED MANUFACTURER'S agent covering entire Pacific Coast carrying warehouse stock wishes additional lines, particularly seats, malleable fittings, combinations, and brass pipe. Strict commission. Satisfactory references. Address Key 568, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

For Sale

FOR SALE—MANUFACTURING plant equipped for manufacture of sanitary enameled iron ware; such as bath tubs, lavatories, kitchen sinks, etc. Could readily be converted into general foundry and machine works, if desired. Well located in eastern section of middle west. Shipping facilities embrace both rail and water. Labor conditions good. Financial assistance, to some extent, could be obtained. Address Key 549, "Domestic Engineering," 1900 Prairie Avenue, Chicago.

Miscellaneous

LETTER HEADS, BILL HEADS, JOB TICKETS, TIME SHEETS, ETC., FOR PLUMBERS

Reasonable prices; quick service. Send for samples. LOUIS FINK & SONS COMPANY, School Building, Laurel Springs, New Jersey.

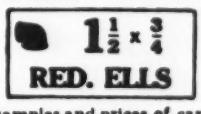
USED OSTER PIPE MACHINES

2" Oster Portable, No. 412.
2" Oster Portable Gasoline Engine Drive No. 402.
2" Oster Belt Drive No. 300.
4" Oster Belt Drive No. 304.
4" Oster Motor Drive No. 304B.
4" Oster Gasoline Engine Drive on Portable Truck.
6" Oster Gasoline Engine Drive, on Portable Truck.
6" Oster Belt Drive No. 306.
6" Oster Motor Drive No. 316B.
8" Oster Belt Drive No. 308.
8" Oster Motor Drive No. 308B.

All the above overhauled and complete with equipment as supplied with new machines.

Send for list of other machines in stock. 50 Used Pipe Machines in Stock. THE O'BRIEN MACHINERY CO., 113 N. Third St., Philadelphia, Pa.

PLUMBERS' BIN LABELS



Send for samples and prices of card holders, bin labels and stop valve tags, and free booklets: "How to Lay Out the Plumbing Shop" and "How to Train the Apprentice Boys." Haddon Bin Label Co., Haddon Heights, N. J.

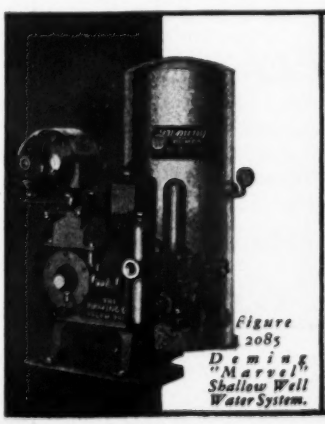
The Most Reliable

PIPE COUPLING BUYERS

In The Country

Write us about your surplus Pipe Couplings

CAPITOL MFG. & SUPPLY CO.
550 Nicholas Street Columbus, Ohio



WRITE for Water System Catalog L, which gives complete information on Deming Shallow and Deep Well Water Systems.

THE DEMING CO.
SALEM, OHIO - Est. 1880

DEMING

NEVER-SPLIT AND EVERNU

QUALITY TOILET SEATS

Sheet Covered—Hard Rubber—Varnished—Sprayed—All Models
All Colors—All Hinges—Patented and Guaranteed

"NEVER-SPLIT" (Hidden Screw Construction) and "EVERNU" (Hard Rubber) Seats are approved by leading architects, builders and dealers everywhere. Get prices from your jobber. Write us for new catalog, cross sections and sales helps.

NEVER-SPLIT SEAT CO., Evansville, Ind., U. S. A.

Index to Advertisers

December 13, 1930

Abendroth Bros. Co.....180
Air Reduction Sales Co.....119
Air Tight Steel Tank Co....174
Alabama Pipe Co.....168
Alberene Stone Co.....177
American Brass Co..... 24
American Radiator Co.....
.....72 and 97
American Sanitary Mfg. Co. 14
Armstrong Bros. Tool Co...142
Automatic Gas-Steam Radiator Co. 173
Ayling & Reichert Co., The 182

Barber-Colman Co. 27
Barber Gas Burner Co., The 162
Barnes Tool Co., Inc., The..112
Bead Chain Mfg. Co.....160
Beaton & Cadwell Mfg. Co.. 94
Beaton & Corbin Mfg. Co...169
Bernz Co., Inc., Otto.....181
Bethlehem Steel Co..... 26
Brunswick-Balke-Collender Co. .....124 and 125
Burnham Boiler Corp..... 15
Butler Mfg. Co.....180

Capitol Brass Division of Bohn Aluminum & Brass Corp. 85
Carty & Moore Eng. Co....176
Case & Son Mfg. Co., W. A.161
Cement Lined Pipe Co.....177
Central Brass Mfg. Co., The 120
Century Brass Works.....159
Chapman Valve Mfg. Co....143
Chicago Faucet Co..... 89
Clow & Sons, James B.....117
Coleman, Allan J.....147
Columbia Burner Co., The..166
Compound Injector & Specialty Co. 135
Crane Co.....103 and 131
Crist & Schilken Co., Inc...158

Dahlquist Mfg. Co.....106
Dart Mfg. Co., E. M.....174
Decatur Pump Co.....147
Deming Co., The.....185
Detroit Brass & Malleable Works 168
Dole Valve Co.....103
Domestic Stoker Co.....155
Donnelly Valve Co.....134
Duriron Co., Inc., The..... 34

EverHot Heater Co.....165
Excelso Products Corp. .....
.....Back Cover

Fairbanks-Morse & Co.....180
Flat Metal Mfg. Co.....176
Fretz-Moon Tube Co., Inc..118
Frick-Reid Supply Corp....184
Fulton-Sylphon Co., The....136

Globe Mach. & Supply Co..135
Glore & Son, Inc., Evins F.140
Grabler Mfg. Co., The.....113
Grinnell Co. 111

Haas Co., Inc., The Philip..114
Hart & Crouse Co..... 16
Hays Mfg. Co..... 69
Healy-Ruff Co.....168
Heating Equipment Co. of America 114
Hindley Mfg. Co.....182
Hoffman Specialty Co..... 18
Hoffmann & Billings Mfg. Co. 170
Hotel Breakers 184
Hotstream Heater Co.....162

Illinois Malleable Iron Co...142
Imperial Brass Mfg. Co....178
International Nickel Co.... 86

Janette Mfg. Co.....176
Jarecki Mfg. Co.....130
Jenkins Bros.....8 and 9
Jenkins Mfg. Co.....166
Josam Mfg. Co..... 30

Kainer & Co.....132
Keeney Mfg. Co.....181
Kelly Brass Works.....178
Kennedy Valve Mfg. Co....105
Kewanee Boiler Co. .....
.....Inside Front Cover
Keystone Pottery Co.....123

Lavelle Rubber Co.....180
Lucke, William B.....176

Malleable Iron Fittings Co.. 96
Marsh & Co., Jas. P.....122
McAlear Mfg. Co..... 25
McDonnell & Miller.....165
Milwaukee Flush Valve Co.174
Mineral Felt Insulating Co..144
Mueller Co. 116
Mueller Brass Co..... 22
Myers & Bro. Co., F. E..... 20

Nash Engineering Co.81 and 82
National Pipe Bending Co..175
National Radiator Corp..... 21
National Regulator Co.....127
National Tube Co.....115
Nelson Corp., The Herman..
.....99 and 100
Never-Split Seat Co.....185
Northern Indiana Brass Co.184
Novelty Steam Boiler Wks..168
Nye Tool & Machine Wks... 13

Oatey Co., L. R 171
Ohio Brass Co.....166
Ohio Heater Co.....121

Pacific Steel Boiler Corp....174
Peerless Machine Co.....146
Penberthy Injector Co..... 75
Penna. Range Boiler Co....130
Petroleum Heat & Power Co. 37
Pierce, Butler & Pierce Mfg. Corp. 33
Plomb Tool Co.....183
Powers Regulator Co..... 12

Radiator Specialty Co.....175
Ravena Iron Co.....182
Reading Iron Co..... 28
Reichert Float & Mfg. Co...184
Republic Brass Co.....104
Republic Steel Corp.....107
Richmond Fdy. & Mfg. Co..146
Ridge Tool Co., The..... 90

Sanymetal Products Co.....141
Sarco Co., Inc.:.....139
Scovill Mfg. Co.....102
Semler Company 126
Sheer Co., H. M.....167
Sherwood Brass Works..... 31
Silent Automatic Corp..... 29
Silent Glow Oil Burner Corp. 150
Simplex Mfg. Co.....167
Sloan Valve Co.....148
Smith & Wesson..... 32
Smooth-On Mfg. Co.....133
Speakman Co. 166
Spencer Heater Co. .....
.....Inside Back Cover
Standard Sanitary Mfg. Co. 71
Stockham Pipe & Fittings Co. 162
Stokes Rubber Co., Jos..... 7
Stringer Bros. Co., Inc.....168
Sturtevant Co., B. F.108 and 109

Taber Pump Co.....167
Taylor Co., Halsey W.....173
Thomas & Armstrong Mfg. Co. 171
Thompson & Son Co., The Henry G. 160
Toledo Pipe Threading Machine Co. 38
Trenton Brass & Machine Co. 140
Trenton Potteries Co., The.. 35
Trupar Mfg. Co.....165

Union Carbide & Carbon Corp. 10
United States Rubber Co... 19

Van Dorn Electric Tool Co., The 23
Vogel Co., Jos. A....3 and 188

Wade Iron Sanitary Mfg. Co. 165
Wall Mfg. Supply Co., P....132
Walworth Co. 78
Warren Webster & Co.....187
Watts Regulator Company.. 17
Weil-McLain Company..... 11
Wessels & Sons Co., D. D..167
Westinghouse Elec. & Mfg. Co. 182
Wise, Inc., J. B.....162
Wolverine Brass Works..... 5
Wood Engineering Co., Gar.129

"X" Laboratories 93

York Heating & Ventilating Corp. 158

Zouri Co., The.....183

40 years at sea— and he needed a life belt *only once!*

No seaman ever *expects* to use his life preserver, but when the emergency arises it is there—to save his life.

No householder, janitor or engineer *expects* his boiler to crack or burn out—but as long as there is the barest chance that it might, every boiler should be safe-guarded against emergencies with the most dependable safety device.

All low pressure heating boilers—regardless of make or system—may be subject to the danger of *accidental low water*. Carelessness, priming due to improper piping or dirt, or the failure of complex automatic devices are the causes . . . A cracked boiler is the result. The new Webster Boiler Protector is the preventative.

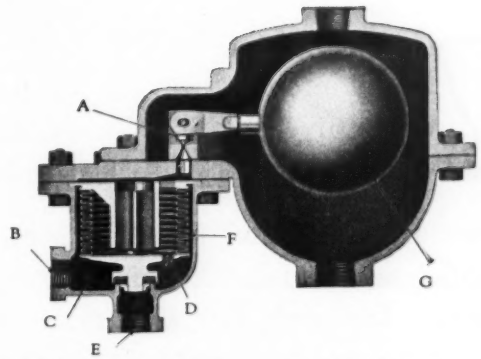
Positive Protection Against Low Water

For five full years this device has been in process of development, tested and retested under actual service conditions. The winter of 1929-30 saw nearly 100 installations subjected to every kind of use and abuse. Not until they came up to Webster standards in every detail of performance for an entire heating season were they offered to the trade as a Webster product.

For Every Type of Low Pressure System

The market for Webster Boiler Protectors is at every contractor's door. They can be sold in new as well as existing installations; for vacuum, vapor and one-pipe jobs. Every cracked or burned out boiler you repair means an easy and profitable sale of the Boiler Protector. Be the first in your locality to recommend, install and profit from this Webster Product.

The nearest Webster Branch Office is ready to give you detailed information and to supply your requirements immediately. Write or phone today.



Check these Simple Operating Principles

Here is how it works: Water main pressure is maintained in chamber C surrounding Sylphon Bellows F. Due to orifice opening D, this pressure normally exists also inside Bellows F. Pilot valve A is normally closed as float G is partially submerged below boiler water line.

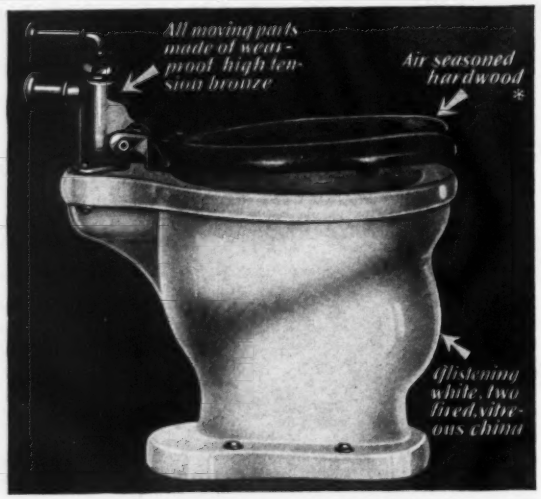
When water line falls and *protection is needed*, float G drops and opens pilot valve A. Water is then discharged through pilot valve A faster than it can flow in through orifice opening D and the pressure inside Sylphon Bellows F becomes less than that on the outside. This difference in pressure compresses Bellows F and raises water valve from its seat, causing a full flow of make-up water into boiler through connection E.

When water level is restored, float G rises to close pilot valve A. Pressure inside Sylphon Bellows F becomes equal to that outside and Bellows F extends to close water valve above connection E. Repeated severe tests show that this valve *simply cannot be stuck closed* because of the enormous power inherent in the design.

Warren Webster & Company, Camden, N. J.
Pioneers of the Vacuum System of Steam Heating
Branches in 60 principal U. S. Cities—Darling Bros., Ltd., Montreal, Canada

P-4

The New Webster Boiler Protector


All moving parts made of wear-proof high tension bronze
Air seasoned hardwood
Glistening white, two fired, vitreous china

Vogel Number Ten-A Seat-Action Closet Combination, with tank concealed.

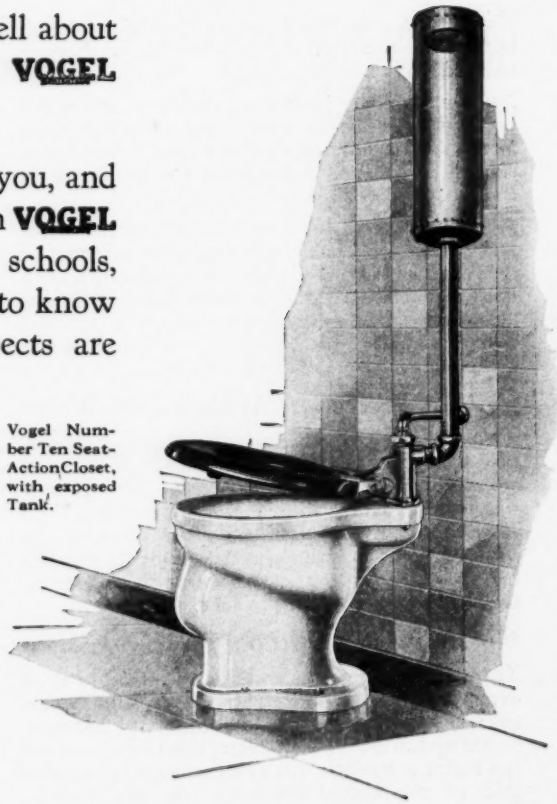
VOGEL NUMBER TEN AND TEN-A CLOSETS WILL BE ADVERTISED EVEN MORE EXTENSIVELY DURING THE COMING YEAR .....

THE more people we can reach and tell about the convenience and economy of VOGEL Closets, the more jobs you can get.

So we are going after new customers for you, and also increasing our direct mail advertising on VOGEL Number Ten and Ten-A Closets. More schools, more factories, more institutions are going to know about VOGEL products, and more prospects are waiting for you.

Our advertising helps you get these profits and it is going to reach even more of your customers in 1931. Work with us and see that all of your customers receive folders and blotters, imprinted with your name and address. Also stickers. We'll supply them all. Tell us how many.

See inside front page for VOGEL Frost-Proof advertisement



Vogel Number Ten Seat-Action Closet, with exposed Tank.

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.

... VOGEL PATENTED Products ...